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-* FEATURING WEEKLY *-

"Accurate UP-TO-DATE News and Information"
Current Events, Original Articles, Tips, Rumors, and Information
Hardware - Software - Corporate - R & D - Imports

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STReport's BBS, The Bounty, invites BBS systems, worldwide, to participate in the Fido/NEST/Atari F-Net Mail Network. You may also phone The Bounty BBS direct @ 904-786-4176, and enjoy the wonder & excitement of exchanging information relative to computers, worldwide, through the use of excellent International Networking Systems. SysOps, worldwide, are quite welcome to join the STReport International Conferences. The Crossnet Code is #34813, and the "Lead Node" is # 620. All BBS systems are welcome and invited to participate. Support your favorite computer! Teleconference Today!

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* ATARI EDITION *

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WHAT'S NEW IN THE ATARI FORUMS (July 2)

ATARI IN THE NEWS

This is a big week for Atari-related announcements. First, the alliance between ATari and IBM for the new Jaguar, and now Gribnif Software announces GENEVA, their new multi-tasking environment. See the GENEVA press releases in LIB 15 of the Atari Arts Forum (GO ATARIARTS) or go to the Gribnif section/library in the Atari Vendors Forum (GO ATARIVEN) for additional info.

NEW JAGUAR AREA IN ATARI 8-BIT FORUM

With the announcement from Sunnyvale on the new JAGUAR Multimedia Entertainment System, we've added a Message Section and Library to the ATARI8 Forum. We invite you to join us in sharing news and views of what promises to be an exciting machine. GO ATARI8 for Section 15 [Jaguar].

TWENTY QUESTIONS ABOUT THE FALCON ... ANSWERED BY ATARI CORP.

Download file 20Q_01.TXT from LIBRARY 15 of the Atari Arts Forum (GO ATARIARTS) for the first 20 QUESTIONS file of questions submitted by the

members to Atari Corp and answered by Bob Brodie, James Grunke and Bill Rehbock.

AGITATION PUZZLE GAME

Download file AGIT.ZIP from LIBRARY 2 of the Atari Arts Forum (GO ATARIARTS) for Agitation. Agitation is easy to learn, tough to solve. This is the most indescribably difficult, infuriatingly impossible program you could choose to run!

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B/STAT VERSION 2.46 NOW AVAILABLE

Download file BSTAT4.LZH from LIBRARY 5 of the Atari Productivity Forum (GO ATARIIPRO) for version 2.46 of B/STAT. B/STAT is a shareware statistical analysis and business graphics program. It requires a 1 megabyte machine and double sided drive at a minimum. B/STAT makes use of GDOS or SPEEDO GDOS if installed but requires neither. This is version 2.46 of B/STAT and offers some improvements in graphing over earlier versions. B/STAT may be registered online by GOing SWREG and selecting ID # 263.

OREGON RESEARCH JOINS ATARIVEN!

Message Section 12 and Library 12 have been established for online support of Oregon Research's products. Please read OREGON.TXT in Library 12 of the Atari Vendors Forum (GO ATARIVEN) for an overview of the company. Also, be sure to check out the other files in the Library for in-depth information on their entire product line.

NEW SOFTLOGIK DEMO IN ATARIVEN

Download file FLAGS.LZH from LIBRARY 11 of the Atari Vendors Forum (GO ATARIVEN) for Sample EPS (Adobe Illustrator) files of the new Flags of the World clipart collection now being sold by Soft-Logik Publishing. The archive contains four flags.

***** JULY 15, 1993 *****

Gribnif Software's Rick Flashman will answer your questions in an online conference. Learn all about the new Multitasking Geneva, the Crazy Dots Cards and NeoDesk 4.

THE ATARI PORTFOLIO FORUM ON COMPUSERVE
HAS BEEN DESIGNATED AN
OFFICIAL SUPPORT SITE BY ATARI CORPORATION

"GO APORTFOLIO TO ACCESS THE ATARI PORTFOLIO FORUM"

"ENJOY CIS' ATARI FORUMS WHERE CENSORSHIP IS A DIRTY WORD!"

> From the Editor's Desk
"*****"

"Saying it like it is!"

If I were to be the melancholy type, I'd be reminiscing about the "good old days". What for though? They weren't THAT good. In fact, most of the time they were a big PIA. Considering the dram shortages, defective floppy mechs, temper tantrums, 40 folder whatevers etc., its a whole lot better these days isn't it? In some ways it is. Like the recent exciting announcement of IBM and Atari doing business together. Strange bedfellows at first glance, but when one considers the mechanics of what is really happening its an ingenious business deal. Those of us who have a tendency to watch Atari's activities rather closely have a rare opportunity to watch the "rebirth" of Atari to a once again healthy company. The stock, for example, went down to .55 and is now up over 4.00 in just a few short months. The business alliance with IBM has been like a transfusion for Atari. The long haul will of course, prove if the momentum of these recent announcements has the necessary staying power. More importantly, will they have the wisdom to allow the IBM pros to make this miracle happen without the typical vacillation and waffling we've all been witness to in the past? I think so. Why? Because this is it. The bases are loaded, there are two outs, its the bottom of the ninth, the other team leads by one run and there are two strikes on the batter. And... it ain't Casey who's at bat. They simply have to make a hit this time with the Jaguar or the game's over. Maybe, just maybe the guy at bat is a "clone" of Babe Ruth.

The computer shows are still running... if there's one near you, don't miss it! A computer show is always worth the effort to see. The new wares both soft and hard, are a treat to the senses. Have a great Fourth of July weekend folks. Sheesh! I'm fifty this weekend! Amazing.... simply amazing.

Ralph....

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STReport will be E-Mailed to any GENIE subscriber who requests it as an archived (in LZH format) attached file. Instructions for downloading an attached file are provided on page 200 on GENIE (Type M200). Downloading E-Mail utilizes the very same transfer protocols as the GENIE RT Libraries, so there is little or no difference between downloading from a Library and downloading an attached file (also called F-Mail).

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> CPU STATUS REPORT

LATE BREAKING INDUSTRY-WIDE NEWS

Computer Products Update - CPU Report

Weekly Happenings in the Computer World

Issue #27

By: John Deegan

IBM TO MANUFACTURE ATARI'S NEW JAGUAR MULTIMEDIA MACHINE - Atar Corp. has signed a \$500 million multi-year contract with IBM which calls for IBM's Charlotte, N.C., factory to manufacture the Atari Jaguar, a 64-bit multimedia entertainment system.

The Jaguar - an interactive video-game system featuring more than 16 million colors and produces three-dimensional shapes - will be available on a limited basis in the fall and is expected to retail for apprx. \$200. Atari is expected to initially focus on the New York market and go national next year.

Atari President Sam Tramiel commented, "This system is clearly the wave of the future. Because the Jaguar will feature such an array of visual and audio special effects, we wanted to work with a premier company that we are confident can manufacture the quality product we have developed."

Atari said the Jaguar project represents one of IBM's first entries into manufacturing for the mass consumer electronics market.

Herbert L. Watkins, director of application solutions manufacturing at IBM Charlotte, said, "This is a wonderful opportunity to work with Atari and their new system. Everyone expects IBM to manufacture complex information technology products, and with this, we'll show that we can competitively build a sophisticated consumer product."

IBM will assemble the Jaguar and be responsible for the component sourcing, quality testing, packaging and distribution.

Atari has produced most of its games in Taiwan, Hong Kong and China. But under the 30-month agreement with IBM, the computer company's manufacturing plant in Charlotte, N.C. will produce Jaguar. The Atari contract is the largest to date for that IBM facility.

The Jaguar is Atari's attempt to leap back into the video game market which over recent years has been dominated by Nintendo and Sega. Atari was once a video game maker powerhouse, with sales of about \$2 billion and 10,000 employees in 1982.

But Atari's sales in the past two years combined was \$385 million. In 1992, it reported a \$73.6 million loss on sales of \$127.3 million and laid off more than 10% of its 500-person workforce.

"Atari invented video games and we want to bring leadership back to the United States and make them here again," said Sam Tramiel, president of Atari Corp.

"I wouldn't say it's a *bet the company' move, but we're putting a lot of resources into it and we're counting on it for a lot of sales," Tramiel said. "In this business, if you get a good product and it catches on, your sales can go through the roof." He declined to provide specific sales targets.

The game player will be based on an Atari-designed 64-bit processor and a sound system based on Atari's digital signal processor. The 64-bit system will include games with three-dimensional shapes and will be free of the delays that allow the machine's microprocessor to catch up. Most video games are 8-bit or 16-bit but some companies are making plans to produce 32-bit machines. One such system is the much-touted interactive multiplayer system to be released this fall by start-up 3DO Inc. which is expected to cost \$700.

Early reviews of 3DO's system have been generally positive, although some analysts think its price tag may be too high for many consumers. But backers of the project believe that the machine will catch on with trend-setting buyers and will take hold because it can be used with both adults and children.

The machine, which will be produced by Matsushita and marketed under its Panasonic label, is viewed by many as a breakthrough for the booming multimedia-interactive industry. One of the first titles will be "Jurassic Park," using footage from the potential blockbuster film being released by Matsushita's Universal Studios.

3DO has claimed its "interactive multiplayer," a device designed to be attached to a TV set, delivers 50 times the graphics animation performance of personal computers and video game systems.

HP OFFERS NEW LOW-END PC'S - Three new low-priced PCs dubbed the HP Vectra 486VL have been unveiled by Hewlett-Packard Co. The systems run on the Intel Corp. 486 microprocessor will be priced from \$1,219 to \$2,359.

APPLE UNVEILS MULTIMEDIA MAC FOR EDUCATION MARKET - Apple Computer has unveiled the Macintosh LC 520, a multimedia computer aimed at the education market.

The 68030-based LC 520 includes a built-in CD-ROM, high-quality stereo sound and a 14-inch Sony Trinitron color display. The unit also features an integrated headphone jack and omnidirectional microphone, a minimum of 5MB of RAM, expandable to 36MB, an 80MB internal hard disk

PEOPLE... ARE TALKING
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On CompuServe

compiled by Joe Mirando

73637,2262

Hidi Ho good neighbors, I hope this past week has been good to you. With the Forth of July right around the corner and the weather turning so nice and warm it's easy to forget about our computers. Luckily the folks who frequent the Atari forums (or is that fora, I'm never sure) are impervious to that sort of thing. There are people here who can answer just about any question an ST user could have. So let's take a look...

Form the Atari Productivity Forum

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CodeHead extraordinair Charles F. Johnson tells us:

"Well, folks, I'm off to Europe for 3 weeks to play guitar with Al Jarreau at all the summer jazz festivals, so I won't be around to answer questions about CodeHead stuff until about the 20th of July. Until then, please call our office at 213-386-5735 if you have any questions, or contact John Eidsvoog here on CIS. Thanks, and I'll see you when I return!"

John Damiano of Transierra tells Charles:

"Hope you have a great trip Charles. I knew I should have taken music lessons"

Tom Craig asks Charles:

"Are you going to be in Scotland at all? (Glasgow Jazz Festival or Edinburgh International Festival)"

Now wouldn't that be the coolest? Getting to hear some great music and maybe even getting some software upgrades afterward...

Meanwhile, back at the ranch, John Devlin asks:

"Does anyone know how I can add or amend the icons that are stored in a RSC. file that is used by TOS 2.06?"

Brian Gockley of ST Informer tells John:

"Look into the Icon editor from SDS Software has worked excellently for me

for several years. There are some other ones on the market, but none that are geared specifically towards the desktop icons."

John tells Brian:

"Many thanks for the information, have you any idea where they can be contacted?"

Brian replies:

"SDS has been spotty on the phones, it's better to buy it from your dealer and just run with it. It really doesn't require much else."

Tim Myers jumps in and tells John:

"There are a couple of PD icon editors on <<InterNet>> and an excellent prg called ICON JUGGLER again PD (shareware) from the Codeheads. These will let you edit icons and cut and paste them from other resource files. There is also a CPX that edits icons I think."

Mike Myers asks about his "new" computer:

"I have an old 1040St with some old programs I inherited. There are no instructions for some of them. Also, this is the first computer I've owned, and I'm mostly ignorant, so pitch your answers to someone who sees computers as one big Juju. First: Can anybody recommend any cheap software that will let me do my personal budget? Create and send out simple bills? The billing and record keeping program can be simple. I freelance for a couple of papers, and get paid so much an hour plus so much a column inch, and expenses- mileage, phone, mail, etc. I'd like to put in the hours, inches, etc, and wind up at the end of the month with a bill I can submit, plus records for my income tax. The emphasis is on cheap. Pencil and paper work well enough so far. Second: I inherited a Wordwriter program with no instructions. I've figured out how to use it with a lot of help from my friends, but an operators manual of some sort would help. Any suggestions? Third: I tried to put the wordwriter program on a disk with my modem program, and no luck. A young friend of mine told me he could transfer a program from one disk to another. He may be right, but I'll never know. Getting new programs was a mess. Please- I need step by step instructions that programers give to the machines, but not the users. Fourth: I have a STalker program, and there's a section where you can set up the logon sequence. Every time I tried it, I got a crash, with about 5 bombs. Help!"

One of the most knowledgeable people on-line today, Albert Dayes of Atari Explorer Magazine asks Mike:

"What version of Stalker do you have? Version 3.x is the latest version of the telecommunications program.

There might be some accounting style programs in the library but I'm not sure.

Word Writer ... I'm not sure if you can find a manual anywhere unless you can find another used version of the product."

Rick Flashman at Gribnif Software asks Mike:

"What version of STalker did you get? We (Gribnif Software) represent STalker from version 3.0 on. If you have STalker 3 and need help, or wish to upgrade, please feel free to call our technical support line at (413) 247-5620 (10am-6pm, eastern time zone). One of our technicians will be more than glad to help you out."

John Devlin asks:

"Does anyone know where i could locate TOS 1.4, 1.9 & 1.2 on disk. I friend requires them so as to get a prog. working."

Sysop Brad Hill tells John:

"TOS updates are not available on disk, as it's a ROM-based operating system. There do exist various auto programs and desk accessories which emulate features of the higher TOS's, but they won't help with a program which needs a newer OS to run.

Updating TOS can be done through a hardware upgrade."

Sysop Ron Luks adds:

"There is no TOS 1.9 and TOS 1.2 and 1.4 are not available as disk based versions."

Mark Saeger tells us about his latest purchase:

"Happily I bought Speedo GDOS at the KC Atari fair yesterday hoping to do away with my old GDOS fonts. I was rather disappointed that it crashes the two utilities I use most often. Neither Timeworks DTP or WordUp 3.0 like the new fonts. I was under the (apparently false) impression that any program that uses GDOS would work with Speedo. Does anyone know of something I may be missing or something that would fix this?"

Bob Wilson tells Mark:

"I do not know about WORDUP but Timeworks definately does not work with SPEEDO. If you are running WARP 9 I suggest that you disable it whenever attempting to print. It and SPEEDO clash and everything bombs with the combination."

Charles Smeton adds:

"Timeworks Publisher does not use GDOS 100% in the conventional way. TWDTP requires a Width Table, which has the width of every character in every bit mapped font for the screen and printer. This file must be built with the FONTWID program prior to running TWDTP. Because of this, you cant change the printer driver or fonts while a program like TWDTP runs. In addition, TWDTP has a limited font list (i.e. it does not use a scrollable selector like newer programs).

As for Word Up 3.0, you might want to ask this question of Mike Fulton of Atari, who was one of the developers of Word Up while he was with Neocept."

Probably the hottest news of the day is Atari's Jaguar game machine. Woodrow Windischman tells us:

"The business section of my local newspaper today said that *IBM* is going to be doing the manufacturing of the Jaguar in a North Carolina plant. Sounds "Made in in America" to me. Wonder just WHICH 64-bit RISC chip its going to be based on.

P.S. Do you suppose, with Big Blue doing the OEM, that the Jaguar just might be the first POWER PC system out? (Not that IBM would ever admit to the first use of its much heralded processor being a "Toy"!)"

Ron Luks tells Woodsy:

"The 64-bit RISC chip in the Jaguar is a proprietary Atari chip. Its not the PowerPC chip from IBM/Motorola."

Albert Dayes adds:

"According to a press release in (GO NEWSGIRD) IBM will manufacture Atari's Jaguar. Its multi-year contract and should be worth around \$500 million or so. The IBM plant is located in North Carolina."

From the Atari ST Arts Forum
=====

John Devlin posts this with a grin:

"Excuse me a moment, what's that in the skys over London !!, WOW a whole squadron of flying pigs."

John Amsler tells the other John:

"Well, you know, the company has been accused of being "ham-handed" in

some of dealings with developers and dealers!"

On the subject of the Kodak Photo-CD Player, Greg Kopchak posts:

"SKware One Software will be running our Photo Show program at the KC show this weekend. He will have a Falcon connected to a NEC 38 double speed CD rom drive reading graphics from a Kodak Photo CD disc and viewing with CD quality digitized sound.

If your going to KC stop by and say hello. Photo Show will be selling for \$35.00 and will include MultiTos CD rom drivers to read from both a Kodak Photo CD or industry standard 9660 format disc. The program will be shipping late next week."

Albert Dayes asks Greg:

"Can you upload a spec sheet on Photo Show and what the requirements are?"

Greg tells Albert just about every thing about the program:

"System requirements for Photo Show are a Falcon computer running MultiTos, a CD rom drive, and a RGB (Atari monitor), VGA monitor, or broadcast TV.

A 35mm camera running KodaColor Gold 100 or better is also highly suggested. Film can be processed by anyone that offers Kodalux processing. Just tell them to request Photo CD processing. Best Buy has Photo CD processing at a very good price. I use a custom lab called Best Photo lab, Brookfield Road, Brookfield CT 06804. A little more expensive but I have found they do a better job on the CD's and prints than Kodalux.

Photo show has a suggested retail price of \$35.00.

Late this summer we will have an application called Virtual BookMaker that will convert Photo CD to other formats. This application will run on any Atari machine that can handle MultiTos and have 2 meg or more of memory. This includes the ST, STe, TT and mega series. Running on the Falcon you will also have all the features of Photo Show's viewing and sound. On other machines you will have all convert features available."

Robby Cooke asks for info for his new Falcon:

"Hello everyone! I'm getting a Falcon in a few days and was wondering if there were any GIF viewers that would take advantage of the 640X480 resolution?"

Albert Dayes tells Robbie:

"Try GEMVIEW its in the library."

John Feagans tells us:

"I attended the Atari shareholders meeting today in Sunnyvale. Of the three issues to be voted on, only the reverse 10 for 1 split had a surprising outcome. On the original proxy the board was recommended a vote for the proposal. At the meeting today, the board announced that they were recommending a vote against the proposal! Because there are only 14 million shares or so and only a small number of shareholders return proxies, and even a fewer number of us die hards actually attend the meeting and vote their true feelings, the vote tally was something like 8,000 to 52 million, against the proposal. No, I was part of the majority<g>

I always take one of my children to various stockholder meetings to teach them a bit how business operates. This time I took my 9 year old son. When Sam asked if all the shareholders had signed in, he shot up his hand and replied that he hadn't! But he turned out to be quite a celebrity for the stock analysts there who wanted to know his opinion of the Jaguar on display. He told them it was the best he had ever seen and he wanted to have one as soon as it was out. My son also corrected Sam Tramiel who said there was no advertising being done for Lynx at this time. Apparently St doesn't read DC comics?"

Ron Luks tells John:

"Hey - I nominate your kid for a seat on the board. Anyone who can generate publicity like this needs to be heard more often. [g]

I knew the reverse split was gonna die the moment the stock went back above \$2 per share."

John tells us a bit more:

"I asked Leonard why he didn't bring his older son. He replied, "he has more important things to do!" At least I'll give them credit for having Lynx POP kiosks set up with new games, but investors and stock analysts couldn't break the ice and start having fun. Imagine if they had turned the exhibits into a focus group with live kids choosing Atari over Nintendo, Sega, etc? Yes, the kids seem to know what is going on with games more than any of the companies."

John Amsler tells us:

"I'm aware of Atari's new policy requiring people to buy Falcons from their local dealer; in fact, I agree with the policy on whole.

Question: Suppose someone lives in an eastern state where there is a local dealer but he/she is currently out of Falcons and won't get any in in time for a customer's need. If that customer then travels to, say, Las Vegas, would it be OK for him/her to buy a Falcon from the local dealer there?

Currently, this is merely a hypothetical question."

Jim Ness tells John:

"Your hypothetical situation has occurred a number of times already, and been freely discussed by users. This is the vacation season, and a number of users have taken the opportunity to travel to places who have Falcons in stock.

Atari has never voiced any negative feelings toward this practice.

Besides, I don't think there is much they could do about it, legally."

Sysop Brad Hill tells John:

"My understanding of this is that it's part of the DEALER agreement, and is not an attempt to regulate CUSTOMERS in any way. Your hypothetical Las Vegas dealer would not be permitted to take a phone order from you. But my understanding is that a customer can walk into any dealership and buy any product; the dealer is not required to check the customer's address before making a sale. I don't know what the policy is on quoting prices over the phone. I know of one extremely large and successful manufacturer who successfully maintains a dealership policy which establishes minimum phone-quote prices for all their products. This has to be implemented very carefully, for legal reasons that I'm hazy about.

I welcome corrections if I'm wrong about Atari's policies."

From the Atari Vendors Forum
=====

Ian Braby asks a question of the Gribnifs:

"In the additional documentation that came with NeoDesk v3.03 it states that it is MultiTOS compatible (but wait for version 4!) and that you just need to inform MultiTOS of the change of SHELL.

This is all very easy for you to say, but whilst MultiTOS has been shipped by HiSoft here in the UK, the documentation is nothing more than an installation guide, offering no clues, as yet, to customising the thing!

Therefore, can you please be a little more specific as to the steps required to get NeoDesk to work with MultiTOS?"

Rich Flashman of Gribnif Software replies:

"There's no documentation with your Multi-TOS? Ugh. You figured Atari would provide at least basic operating instructions. MiNT and Multi-TOS can be "quite" complex and hard to understand if you have no idea of what you are doing.

Let me check with Dan tomorrow and I'll upload some more specific instructions on how to install NeoDesk 3.03 in Multi-TOS. I don't normally

run Multi-TOS, so I am not sure on the exact steps."

Dazzz Smith tells Ian:

"I booted MTOS on my 2.5 meg STM and neodesk 3.03 came right up!"

Rick explains the difference:

"It has to do with the TOS version you have. If I understand it correctly, if your TOS version supports autobooting (by configuring it from the built-in desktop), it will autoboot NeoDesk 3 automatically. If your TOS doesn't, you can no longer use STARTGEM, you instead need to use the RUN command in the GEM.CNF file..."

Make sure that if you are running NeoDesk 3.03, that your NeoDesk Control Panel is also version 3.03. Running the NEOCNTRL 3.02 with NeoDesk 3.03 will cause trouble. The same also applies to your copy of NEOLoad."

Mike Mortilla asks:

"Would anyone using Spectre consider formatting a few 800k disks for me? I just bought MacSEE but it doesn't read Mac disks on a lowly Atari 800k drive UNLESS they're in Spectre format (which I assume a Mac COULD read.

Otherwise, the prog is totally useless to me and I'm out about \$50. Of course, I'll pay all expenses for the disks, postage, mailers, etc, and would own ...er... owe someone a BIG favor <g>.

PLEASE help me if you can! All reply's greatly appreciated. Too bad there's not a stand alone program I could *buy* <hint hint> that would format the sucker for me (or is there?). Well, if there is, this would be the place to ask."

Albert Dayes at Atari Explorer Magazine gives Mike a few hints:

"I thought there was a program that did format Spectre disks. Doesn't Diamond Format have that capability? Or one of the freeware/shareware formatter programs for Double Click?"

From the Atari Portfolio Forum
=====

On the subject of a 512 Kbyte Portfolio, Sysop Marty Mankins posts:

"One of the things that I would like to do with the 512K version is to get WP 4.2 to work. I can get it to work now, but I need to have the Memory

Expander + attached and then load WP from the Flashdrive. Not the best portable solution, but it works. The 512K upgrade would make it possible to load the program onto a 250K C: drive, leaving just over 200K free to load WP. Then I save all of my stuff on the 128K RAM card in A:. Seems like a over-rated solution, but it would be nice to take files back and forth a bit easier. Save it in 4.2 format in WP 5.1, work on it on most of my palmtops and other DOS machines, then take it back into 5.1 with no hard returns to delete, etc."

Sysop BJ Gleason tells Marty:

"It was because of my need to run WP that I picked up a ZEOS PPC... I can run WP on it... I saw you mention that WP was available on a ROM card... What's the deal with that? [price, availability, version, etc.."

Don Thomas tells Marty:

"I agree that is a great motivator for the added RAM. I do a lot of writing/data entry in my Port, but it's not all letter writing. So, for me, I don't know if anything more than the text editor would appeal to me to fulfill any personal needs. I do realize there's a lot of people who do letter writing and would enjoy that benefit."

John Fraser asks Dan Shearer of BSE:

"I am looking for a 512 mem card for my port ? does your company do that ? if so could you post a phone number i could call you at (Also \$)"

Dan tells John:

"Sorry, John, but I don't do memory cards for the Port. I do do Hard drives. Ask anybody on the forum and you'll see. The price for a 30 MB special is now \$279! Thats a lot more than the memory card! 602-527-8843 is the phone if you are interested."

Mark Reeves tells John:

"For a 524k flash card try optrol at 919 779 3377"

Dan Shearer tells us all:

"Hi Folks.. It's me again, MR. BSE. Just wanted to let everyone out there with a BSE product that I am here to help in case of any problems. I try to log on every day. I also can refer you to a local dealer or get you current prices on any BSE item. I'm not permitted to push my product here, so I won't."

Don Thomas of Atari Corp. tells Dan:

"I can understand that it is best that we don't create a SuperMarket environment, but I know there the forum membership changes from time to time and I personally see a lot of value in being reminded about your products, where they are sold and the most recent enhancements that are available.

In fact, I would like to see a list of nifty software that your module enables the Portfolio to run. I think BSE should keep an ongoing list (even if its informal) and encourage your current customers to help contribute new titles they may have run across. I realize that the list may be a little tough to get started which is EXACTLY why you should... so potential customers don't have to think of reasons to buy your product on their own.

I think the BSE Universal Interface and the Hard Drive assembly are wonderful products. I think this forum owes it to all Portfolio passers-by to make sure we support them by keeping it a favored topic.

Then again, people like bj could care what I think! <g>"

Ron Luks adds his thoughts:

"I agree with you (see also my reply to Dan). I maintain the most liberal interpretations of CIS's rules for promoting products online. Obviously, there is a limit, but we're far more liberal than most any other online forums."

Don tells Ron:

"I appreciate that Ron and I know probably most of the forum members do. I know for myself being a Port user, I want to know about new neat things and how the existing products are doing and that CIS is the best source for that info!...

(and to Dan):

"Hey-- its okay to push your product here. We like to support the vendors who support the Portfolio."

Well folks, that's it for this week. C'mon back next week and maybe you'll learn something new. Or better yet, why not log onto CompuServe and take part in the fun?

Tune in again, same time, same channel and listen to what they are saying when...

PEOPLE ARE TALKING

IMPORTANT NOTICE!

=====

STReport International Online Magazine is available every week in the ST Advantage on DELPHI. STReport readers are invited to join DELPHI and become a part of the friendly community of Atari enthusiasts there.

SIGNING UP WITH DELPHI

=====

Using a personal computer and modem, members worldwide access DELPHI services via a local phone call

JOIN -- DELPHI

Via modem, dial up DELPHI at 1-800-695-4002

then...

When connected, press RETURN once or twice

and...

At Password: type STREPORT and press RETURN.

DELPHI's Basic Plan offers access for only \$6.00 per hour, for any baud rate. The \$5.95 monthly fee includes your first hour online.

For more information, call: DELPHI Member Services at 1-800-544-4005

DELPHI is a service of General Videotex Corporation of Cambridge, MA.

Try DELPHI for \$1 an hour!

For a limited time, you can become a trial member of DELPHI, and receive 5 hours of evening and weekend access during this month for only \$5. If you're not satisfied, simply cancel your account before the end of the calendar month with no further obligation. If you keep your account active, you will automatically be enrolled in DELPHI's 10/4 Basic Plan, where you can use up to 4 weekend and evening hours a month for a minimum \$10 monthly charge, with additional hours available at \$3.96. But hurry, this special trial offer will expire soon! To take advantage of this limited offer, use your modem to dial 1-800-365-4636. Press <RET> once or twice. When you get the Password: prompt, type IP26 and press <RET> again. Then, just answer the questions and within a day or two, you'll officially be a member of DELPHI!

TOP TEN DOWNLOADS (06/30/93)

ANTIBOMB, CRASH STOPPER!

STREPORT 9.26 06/25/93

AEO: VOLUME 2, ISSUE 11

LHARC VERSION 2.20

DC XTRACT PLUS 2.2B

KID KONG

BRODIE10.ARC

CHECKBOOK FOR THE ST

BUGS.LZH

PAULA 2.2A MOD PLAYER

All of the above files can be found in the RECENT ARRIVALS database for at least one week after the posting of this list. Please Note that in the case of online magazines, only the most current issue in the database at the time of this compilation is considered for the Top 10 list. Also, for all files, a submission is eligible for the Top 10 list for only four weeks after its original uploading.

DELPHI- It's getting better all the time!

> BLUE RIDGE ATARIFEST'93 STR SHOW NEWS "The Summertime Atari Event!"
"*****"

1993 Blue Ridge ATARIFEST
"*****"

FOR IMMEDIATE DISTRIBUTION
"*****"

The Blue Ridge Atari Computer Enthusiasts (BRACE) and Computer Studio invite you to participate in the Fourth Annual Blue Ridge AtariFest in beautiful Asheville, North Carolina. Show dates and times are:

Saturday July 24, 1993 10am - 6pm
Sunday July 25, 1993 Noon - 5pm

Just as in previous years, we have arranged for FREE Booth space for Atari developers!! (We're only requesting the donation of a door prize).

We can promise both developers and show-goers an energetic and exciting show with as enthusiastic a crowd of Atarians as you'll find anywhere, plus the support of Computer Studio in the mall.

We're once again taking over the Courtyard Shop (mall) area at Westgate Shopping Center for the show (location of Computer Studio), plus the use of vacant store spaces for seminar sessions. Seminar sessions will be 45 minutes in length, and developers are welcome to conduct a seminar on their product line or approved topic of their choice (seminar sessions are limited, so first come, first served).

This year's show dates also coincide with Asheville's annual Bele Chere street festival, when downtown Asheville is closed to vehicular traffic and becomes what must be one of the largest street fairs in the country. Westgate Shopping Center is one of the primary Park-and-Ride shuttle centers for transporting people to and from downtown, and we've arranged to have the shuttle service pick up at the front entrance of the mall and drop

off at the rear entrance, so everyone taking the service from Westgate WILL walk through the AtariFest exhibition area sometime during the day. This will be a great opportunity to showcase Atari and Atari related software and peripherals, and introduce them to people who aren't already Atari owners. Bringing in NEW blood is the key to the growth of this platform, and this will be our opportunity to begin that process with a captive audience.

Additional discussions of the show, as well as confirmations of your participation, are welcome in GENieMail and in the Blue Ridge AtariFest topic 13 in Category 11 here on GENie.

HOPING TO HEAR FROM YOU SOON.

HAPPY ATARI COMPUTING.

IT'S HAPPENING IN ASHEVILLE!

Where: Westgate Shopping Center - Asheville, N.C.

Take any major highway into Asheville (US 19-23, US 26 or I-40) to the I-240 loop, then take the "Westgate/Hilton Inn Drive exit" into the Westgate Shopping Center parking lot.

When: 24-25, July 1993
Time: 10:am to 6:pm SAT
12 Noon 'til 5pm SUN

Points of contact:

Come for a day or come for the weekend,
but do come and enjoy yourself.

Great Smokies Hilton Resort Hilton Inn Drive (704)254-3211
Toll-free reservation phone number 1-800-733-3211

Radisson One Thomas Wolf Plaza (704)252-8211
Rate: \$62.00 per room (1-4 people)

===== Additional Hotel / Motel Information =====

Days Inn I-26 and Airport Road (704)684-2281
I-40 Exit 55 (704)298-5140

Econo Lodge US 70 East, I-40 Exit 55 (704)298-5519

Holiday Inn 275 Smoky Park Hwy (704)667-4501
Toll-free reservation phone number 1-800-HOLIDAY

Red Roof Inn I-40 and US 19-23 Exit 44 (704)667-9803
Toll-free reservation phone number 1-800-843-7663

Budget Motel I-40 Exit 44 (Enka-Chandler)

West Asheville Exit (704)665-2100 Best
Western Asheville Central 22 Woodfin St (704)253-1851

===== Local Bed & Breakfast lodging Information =====

Aberdeen Inn	64 Linden Ave	(704)254-9336
Albemarle Inn	86 Edgemont Road	(704)255-0027
Applewood Manor	62 Cumberland Circle	(704)254-2244
The Bridle Path Inn	Lockout Road	(704)252-0035
Cairn Brae B & B	217 Patton Mountain Rd	(704)252-9219
Carolina B & B	177 Cumberland Ave	(704)254-3608
Cedar Crest Victorian Inn	674 Biltmore Ave	(704)252-1289
Corner Oak Manor	53 St. Dunstan	(704)253-3525
Cornerstone Inn	230 Pearson Dr	(704)253-5644
Flint Street Inn	100 & 116 Flint Street	(704)253-6723
The Lion and The Rose	276 Montford Ave	(704)255-7673
The Ray House B & B	83 Hillside St	(704)252-0106
Reed House	119 Dodge St	(704)274-1604
The Wright Inn	235 Pearson Drive	(704)251-0789]
		(1-800-552-5724)

A more complete listing of Bed & Breakfasts can be obtained through the Asheville Area Chamber of Commerce.

Reservations should be made immediately, as July is the height of our tourist season.

===== CAMP GROUNDS =====

(reservations are a must during this time of season):

Mount Pisgah:

About 20 miles southwest of Asheville on the Blue Ridge Parkway at mile post 408.6 (National Park Service). 690 acres. Elevation 5000'. One of the nicest campgrounds in Western North Carolina. 67 tent sites, 70 RV sites. For reservations: P.O.Box 749, Watnesville, N.C. 28786; phone (704) 235-9109. No showers. Groceries and restaurant. Nature program. 14 day stay limit.

Lake Powhatan:

4 miles south of Asheville on State road 191, 3.5 miles west on SR 806. 30 acres. 98 tent/rv sites. Reservation available thru Mistix 1-800-283-CAMP. Disposal station. No showers. Swimming; lifeguard; fishing; nature trails; bicycles. 14-day stay limit.

While in the area, you might want to consider a little sightseeing, and include a visit to the Biltmore House here in Asheville (the largest single family residence ever built in the U.S.--its a "castle"). A visit to the Biltmore can be a full-day's activity as you will want to view the house, visit the winery, and walk some of the grounds and gardens.

Hours:

The House 9 am to 6pm	The Gardens 9am to 7pm
Conservatory 9am to 5:30pm	
The Winery Monday-Saturday 11am to 7pm	Sunday 1pm to 7pm

Other areas of interest include; the Thomas Wolf home (adjacent to the Raddison), the Blue Ridge Parkway and Folk Art Center. A drive up the Blue ridge Parkway to enjoy the higher elevations and incredible views of our mountains. Perhaps a hike up to Mount Pisgah and look back down to Asheville(you can see Mt. Pisgah from most anywhere in Asheville). A short

drive from Mt. Pisgah will take you to Sliding Rock (for those of you travelling with kids who are still kids at heart), the Cradle of Forestry (first forest school in the country), waterfalls, trout hatchery, etc. For the adventurous, white water rafting on the Natahala River near Bryson City (approx one and a half hours from here).

There's obviously loads more to see and do around Asheville (in addition to the Blue Ridge AtariFest and a visit to Computer Studio :-). If any of y'all would like maps and additional tourist info of the area I might suggest contacting the Chamber of Commerce:

Asheville Area Chamber of Commerce
151 Haywood Street
P.O. Box 1010
Asheville, NC 28802
704-258-6111 FAX: (704)251-0926

The Blue Ridge Atari Computer Enthusiasts (BRACE) and Computer Studio invite you to participate in the fourth annual Blue Ridge AtariFest on Saturday, July 24 and Sunday July 25, 1993. The show will take place in the Courtyard Shop area of Westgate Shopping Center in Asheville, North Carolina (Home of Computer Studio). We are still signing up additional exhibitors, but those who have already made a firm committment to attend include (Alphabetical Listing):

Atari Corp/Applied Audio Marketing . Atari's Southeast Regional
Representatives will be on hand
to let you know what's going on
in the Atari world, especially
here in the Southeast U.S.

Accusoft-ST PD/Shareware Software (Desktop
Publishing Clip Art Libraries)

Barefoot Software Professional MIDI Software
applications (SMPTETrack,
EditTrack Platinum, GenEdit, EZ
Score Plus, etc.)

Binary Ink David St Martin will discuss his
own desktop publishing business
and conduct informative seminars
on "Marketing Your DTP Skills"
and "Newsletter Desktop
Publishing".

Codehead Technologies Productivity software &
enhancements (G+Plus, MultiDesk
Deluxe, HotWire, CodeHead
Utilities, Warp 9, Calligrapher,
MaxiFile, Lookit & Popit, Avant
Vector, MegaPaint, TOS Extension
Card, etc.)

Computer Studio Visit a 'real' Atari Dealership
in the mall (Atari computer
systems, software and

accessories)

DMC Publishing	Desktop Publishing System Solutions (Calamus/SL, PKS Write, Outline Art, Invision Elite, tms Cranach Studio, etc.)
GENieLamp/GENie	Telecommunications and Electronic Publishing
JV Enterprises	Developers of low-cost license-ware software and games.
Lexicor Software	Professional animation and rendering software (Prism Paint, Phoenix Render, Meridian, etc.)
MagicSoft	Entertainment Software (New products unveiling!)
Missionware Software	(Flash II, lottODDS, Printer Initializer, etc.)
STReport Online Magazine	Electronic Online Magazine

Showtimes are 10am - 6pm on Saturday, and noon-5pm on Sunday. Seminar sessions will be scheduled throughout the show.

Since this year's show coincides with Asheville's annual Bele Chere Street Festival, we are not having a Saturday evening banquet, but are instead encouraging guests to hop the shuttle bus at the front entrance of the mall and spend Saturday evening downtown enjoying the outdoor festivities (live entertainment, food booths of all types, dancing, etc.).

Advance registration is only \$3; or \$4 at the door. Additional information about the show and Asheville's Bele Chere festival will be mailed to all who pre-register in advance. Door prize winners will also be selected from registered guests (you need not be present at the time of the drawing to win). Advance registration checks should be made out to "COMPUTER STUDIO" and mailed to:

Computer Studio
Westgate Shopping Center
40 Westgate Parkway - Suite D
Asheville, NC 28806

For additional information, please contact either:

Sheldon Winick
GENie: S.WINICK
Computer Studio
Westgate Shopping Center
40 Westgate Parkway - Suite D
Asheville, NC 28806
(704) 251-0201

Cliff Allen, Show Coord.
GENie: C.ALLEN17
Internet: CALLEN@UNCA.EDU
phone: (704) 258-3758

Name: _____

Address: _____

City: _____ ST: _____ ZIP: _____

Telephone: (_____) _____

Please enclose a separate registration form for each person,
and return to us at the following address along with your
check in the amount of \$3.00 per person (\$4.00 at the show)
made payable to "COMPUTER STUDIO":

Computer STudio
Westgate Shopping Center
40 Westgate Parkway - Suite D
Asheville, NC 28806

Alternate Credit Card Payment Method:

___ MasterCard ___ VISA ___ Discover ___ American Express

Credit Card Number: _____

Expiration Date: _____

Authorized Signature: _____

> GENEVA ANNOUNCED! STR InfoFile

GRIBNIF ON THE MARCH!

Gribnif Software
News Release
June 30, 1993

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| Geneva |
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Multitasking Application Environment
=====

After almost two years of development, Gribnif Software is proud to announce their newest software offering for the Atari ST, STE, TT/030, Falcon, and compatibles.

"Geneva" is a Multitasking Application Environment (Multitasking AES) that allows any Atari to:

- o Multitask unlimited GEM applications+
 - o Load and unload unlimited desk accessories+
 - o Put applications and accessories to "sleep", keeping them from using valuable CPU time, temporarily closing all their windows.
 - o Run MultiTOS applications (it supports the new AES 4.0 calls)
- + subject to available memory

Geneva also adds the following features to the Atari:

- o Task Manager
 - for total control of all applications and accessories
- o Tear-off menus
 - drag any drop-down menu into its own window
- o 3-D buttons and 3-D window gadgets
 - easily customizable
- o Keyboard control of drop-down menus
 - similar to Windows, "walk the menus" of any application
- o Ability to run singletasking applications
 - for applications that are not multitasking compatible
- o Enhanced compatibility when compared to Atari's MultiTOS
 - special flags let you run even the most troublesome programs
- o Keyboard control of window gadgets & dialog buttons
 - keyboard equivalents for dialog & alert buttons, plus the ability to assign keyboard equivalents to window gadgets
- o Ability to change mouse shapes, including mouse animation support
- o MiNT compatibility for MiNT applications
 - multitask TOS programs, run MiNT-specific applications, requires either freeware or commercial version of MiNT
- o Enhanced file selector
 - with powerful pattern matching, file searching, renaming, deleting, dual column display, and multiple file selection

When compared to Atari's MultiTOS, Geneva offers the following advantages:

- o Smaller memory requirements (less than 125K of RAM when active)
- o Faster application speed, mostly due to Geneva not requiring MiNT loaded to multitask GEM applications.
- o Faster window redraw and window gadget operation, due to Geneva's faster AES code.
- o Higher compatibility with older applications, thanks to Geneva's special application flags and support for singletasking applications.

If you do NOT have MultiTOS, Geneva offers you:

- o A very easy and fast way to multitask unlimited GEM applications, subject to available memory.

- o The ability to load and unload unlimited desk accessories as you need them, subject to available memory.
- o The ability to run AES 4.0 (MultiTOS) applications.
- o An inexpensive way to give your computer a whole new look & feel, including 3-D buttons, tear-off menus, multitasking, keyboard control, and much more.

If you DO have MultiTOS, Geneva offers you:

- o A faster AES which offers several new features, including tear-off menus, keyboard controls, faster windows, and higher compatibility.
- o Higher compatibility, thanks to Geneva's special application flags and support for singletasking applications.
- o The ability to not have to run MiNT, therefore giving you:
 - > A faster way to multitask unlimited GEM applications, subject to available memory.
 - > The ability to save substantial amounts of memory.
 - > Even higher compatibility with non-MiNT compatible applications.

What Geneva does NOT include:

- o Geneva does not include or require a "desktop". The built-in ROM desktop is not compatible (if we could make it so, we would). But, a desktop is not required. You can launch programs and accessories directly from Geneva's Task Manager.

However, for convenience, a desktop replacement is recommended. Geneva will work most MultiTOS compatible replacement desktops and file launching shells.

Also, a patch is included with Geneva that upgrades NeoDesk 3 to version 3.04, allowing it to work correctly with Geneva.

We recommend the soon to be released NeoDesk 4 desktop replacement, which will include many new multitasking oriented features, window menus, true color support, and will take full advantage of Geneva's power and capabilities.

- o Currently, Geneva does not include MiNT, the TOS enhancement written by Atari for use with MultiTOS. However, Geneva is fully compatible with MiNT, allowing you to run MiNT applications and multitask TOS applications. Geneva is compatible both with the freeware version of MiNT and Atari's commercial version.

Some common questions and answers about Geneva:

Q: Will I still be able to use my screen accelerator together with Geneva to speed up my Atari?

A: Of course! Geneva does not replace the VDI, the part of the Atari in charge of drawing. It works great with programs like "Warp 9" and "NVDI 2.0"

Q: Do I have to reset my machine to load Geneva, like with MultiTOS?

A: Nope! You can easily load Geneva right from the built-in desktop (or your favorite shell). No need to reboot the computer.

Q: How compatible is it?

A: Quite. Almost any program can be executed. The real question is if a specific GEM program can actually support multitasking. You will find that many do, but some programs, like the original Flash, will only run in singletasking mode. Other compatibility options in Geneva let you specify if an application can receive AES 4.0 (MultiTOS) messages, should only use a specific amount of memory, or any other special handling it might require.

Q: How does singletasking work?

A: Geneva is aware that certain applications are not multitasking compatible. When you run Flash, for instance, all other GEM applications are temporarily suspended until you either quit Flash or suspend it (letting you switch back to the other multitasking applications while keeping Flash loaded in memory). However, you still have full access to all of Geneva's other capabilities, including the ability to load and unload desk accessories.

Q: How complex is it to set all these settings?

A: It isn't at all. To make things even easier, Geneva keeps a special GENEVA.CNF file which serves as a small database that already tells Geneva how to run most programs. We will continue to update this file (releasing it on-line, etc.) as we try out more and more programs with Geneva. This means that all you may have to do is actually run your programs, the settings are most likely already set!

Q: What about TOS (text based) programs?

A: Currently, TOS programs run as singletasking applications. In Geneva they run inside their own GEM window, allowing you to easily change their font size and control their output. However, if you run the freeware or commercial version of MiNT, you can multitask TOS programs.

Q: Can I still use file selector replacements like UIS III or Little Green Selector?

A: Yes, they will work, though you might find that they might not support some of the more advanced Geneva features (such as the advanced pattern matching, selecting multiple files at once, etc.)

Q: I'm a developer, how can I take advantage of Geneva's new features and capabilities?

A: Every copy of Geneva includes a complete developer's kit. This includes full information, libraries, and sample code on how you can easily take advantage of Geneva's power and capabilities. There are no royalties or licenses involved in making your application "Geneva Aware".

Release Dates & Prices:

"Geneva" is slated for release in North America around September 1st, 1993. Foreign versions, including a German version, will be available shortly thereafter.

"Geneva" will be available commercially from your local dealer for \$99.95 and will include the new "NeoDesk 4" desktop replacement.

"Geneva" will also be available by itself (without NeoDesk 4) for \$69.95. NeoDesk 4 will be available separately for \$69.95.

Gribnif Software
News Release
June 30, 1993

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  | Geneva |  
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Multitasking Application Environment
=====

"Geneva" is slated for commercial release around September 1, 1993.

For a limited time only, registered North American (USA & Canada) owners of "NeoDesk 3" can acquire the "Geneva BETA" release planned for July 15, 1993.

With the "Geneva BETA" release, you get:

- o The July 15, 1993 release of "Geneva BETA".
- o On-disk, ready-to-print, documentation.
- o Special patch to upgrade NeoDesk 3 to version 3.04, making it compatible with Geneva.
- o FREE upgrade to the final September 1st release of "Geneva", including the finished, printed manual.

Instead of the regular price of \$69.95 for Geneva, those who purchase the "Geneva BETA" version will only have to pay \$50, a savings of \$19.95 from the final release.

You save \$19.95, get the program at least 45 days before anybody else, and receive a FREE upgrade!

For more information, or to become a member of the "Geneva BETA" team, call Gribnif Software at (413) 247-5620.

Gribnif Software
P.O. Box 779,
Northampton, MA 01061-0779
U.S.A.

Tel: (413) 247-5620 (10am to 6pm, Eastern Standard Time)
Fax: (413) 247-5622 (24 hours a day)
GENIE: GRIBNIF
CIS: 75300,1131

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  | Crazy Dots II |
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True-Color Video Display Adapter
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Gribnif Software is proud to announce the immediate North American release of their newest addition for the Atari MegaST, MegaSTE, and TT/030. Developed by TKR in Germany, the brand new, Crazy Dots II - Video Display Card.

Crazy Dots II has the following capabilities:

- o Programmable screen resolutions up to 1,664 x 1,200.
- o True-Color display capability (giving you up to 16.7 million colors to choose from!).
- o Virtual display support (display a resolution higher than the physical screen resolution) with hardware panning (no software slowdown).

Crazy Dots II also offers the following advantages:

- o Optional, 24 bit color, accelerated "NVDI" based screen driver, which gives you a SUBSTANTIALLY faster display than any other video card.
- o Uses any standard VGA monitor (the better the monitor, the higher the maximum resolution that you can display).
- o Internal expansion slot with its own output socket for future upgrades.
- o English language software with an English (written by us) manual.
- o 1 Megabyte of Video RAM.

The Crazy Dots II is a custom card, specifically designed to fit right into your Atari's expansion slot. Two versions are available:

- o MegaBus
For the Classic MegaST, includes a "pass-through" for the optional math co-processor.
- o VME
For the MegaSTE and TT/030 models.

The Crazy Dots design has already established itself, for the past two years, as the leading video display card for the Atari. Used by hundreds of satisfied customers, Crazy Dots gives you a fast, customizable, high resolution display.

Crazy Dots II carries a suggested retail of \$799.95. Dealer discounts are available. To place an order, or for more information, please contact:

Gribnif Software
P.O. Box 779,
Northampton, MA 01061-0779
U.S.A.

Tel: (413) 247-5620 (10am to 6pm, Eastern Standard Time)
Fax: (413) 247-5622 (24 hours a day)
GENIE: GRIBNIF
CIS: 75300,1131

the database can be restored to a consistent state.

ADSM ensures the availability of your data in the event of a database or recovery log media failure by providing a mirroring feature for the database and recovery log. You can define as many as two additional copies of each database volume and each recovery log volume for mirroring.

Changes can be made to the system without having to take it offline. With the export/import feature, you can move backup/archive data from one server to another. This is accomplished by exporting part or all of a server's data to tape, so that you can import the data on another server.

ADSM 1.1 is the successor product of IBM Workstation Data Save Facility/VM (5684-122) and supports existing WDSF/VM backup/archive clients.

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> IBM-CARY STR InfoFile
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1-800-IBM-CARY
and
Cross System Product*

*** 1-800-IBM-CARY is a new access line into IBM for the below products,
*** if you have a problem in the areas outlined, let the IBM Cary, North
*** Carolina software laboratory help you with one of it's solutions!

What if.....

You had an automated method to define, test, generate and run applications in multiple environments?

Call 1-800-IBM-CARY and ask us to show you CSP (Cross System Product*).

You say you're buried in paper, but can't find what you need when you need it?

Call 1-800-IBM-CARY and ask us about the BookManager* family of products that build, read and distribute electronic documents.

So you say you want a tool to quickly build sophisticated, customized CID-enabled installation programs?

Call 1-800-IBM-CARY and ask for an information package on Software
Installer for OS/2* and Software Installer for Windows**.

And you want a set of application programming interfaces (APIs) that provide a consistent way to access interprocess and network communication functions under OS/2 2.0*?

Call 1-800-IBM-CARY for information on Distributed Application/2*.

You say you want to convert your Windows 3.0, Windows 3.1, and OS/2 1.3 screens to OS/2 2.0 without going through a software conversion?

Call 1-800-IBM-CARY and ask us about IBM SAA Common User Access Controls Library/2 (CCL).

What if...Your MVS systems and operations people had interactive applications for problem change and configurations management of network and central site operations?

Call 1-800-IBM-CARY and we'll send you information about
Information/Management for MVS*.

And if you need an advanced set of productivity tools that you can use to enrich human-computer interaction; and to develop, test, and document interactive and batch applications...

Call 1-800-IBM-CARY and ask for the ISPF and ISPF/PDF information package (Interactive System Productivity*, Program Development Facility*).

We're IBM-Cary and we're building software that solves your problems. Call 1-800-IBM-CARY and let us help you.

* Trademark of International Business Machines, Inc.

** Trademark of Microsoft Corporation

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> NVN WANTS YOU! STR InfoFile          Another Network Supports Atari!  
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NVN - THE NEW KID ON THE BLOCK!
=====

The Atari computer platform has support on yet another top notch telecommunications service! National Videotex Network (NVN) maintains an area just for our favorite computers. Type GO ATARI Order an extended NVN Membership of 6 or 12 months, pay for it in advance and receive a bonus in connect time at no additional charge.

NVN lowers its connect time charges!

\$5/hour non-prime time (EST. 7pm - 9am weekdays and all day weekends)

\$8/hour prime time (EST 9am - 7pm weekdays)

Choose from two great subscription plans:

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major software company and bundled with at least one of their commercial software programs. A renamed version was contracted to Softdisk Publishing (Big Blue Disk) for availability to monthly software subscribers.

FSLABEL

FsLabel reads the contents of a disk and prints identification labels for your disk library on full page laser sheet labels using any Hewlett Packard compatible printer. It's fast, easy to use, and the only automatic disk labeler to support full page laser labels. The Department of Social Services for the State of Alaska uses it, along with the Yosemite Valley Curry Company and several other commercial firms including Hewlett Packard, who registered it and makes it available on their own BBS. It has also found a niche in the offices of a number of Attorneys, Dentists, and Physicians.

HPLABEL

HpLabel is a Windows based version of FsLabel. In addition to running under the Windows graphical environment, it features the ability to select files across directories to include on your disk identification label. HpLabel requires either version 3.0 or 3.1 of Microsoft Windows, and a HP compatible printer.

FSREAD

FsRead is a fast ram based text file browser able to load files up to 450 kilobytes into ram for lightning fast scans and searches. It features a graphic tree for directory file selection, the ability to mark on screen text for searches of additional occurrences, and a book marker to return to your place after a scan or search. A renamed version was contracted to Softdisk Publishing (Big Blue Disk) for availability to monthly software subscribers.

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QSHELL

Qshell is a mouse driven, point and shoot DOS shell. For those who don't already have one, Qshell is an inexpensive shell that even a novice can use to entirely manage a hard disk system. You can create or remove directories; copy, delete, rename, view, or change attributes for files; or run programs. All this with the click of your mouse if you have one, or a few key strokes if you don't.

CLEAN SWEEP

Clean Sweep is a Windows based utility that scans your entire hard disk for files matching a search mask, for either total or selective deletion. Use Clean Sweep to delete all those *.BAK files that clutter

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> WHY OS/2 2.0 STR FOCUS!

WHY OS/2 2.0?
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Executive Summary

WHY OS/2 SURPASSES BOTH WINDOWS 3.X AND WINDOWS NT

Most people agree that, as an operating system, IBM's OS/2 2.0 is superior to Microsoft's Windows 3.1. To compete with IBM's OS/2, Microsoft has announced another system, Windows NT. Windows NT is not yet available and Microsoft says the first version may ship in late 1992 or in 1993.

When it finally arrives, Windows NT is expected to address some of Windows 3.1's shortcomings. However, based on the preliminary beta release and Microsoft's public comments, Windows NT will only partially close the gap with OS/2 2.0.

For example, the state of the art in user-friendly interfaces today is the object-oriented graphical user interface, an example of which is the Workplace Shell in OS/2 2.0. Only recently has Microsoft begun to talk about releasing a similar user-friendly interface -- sometime in 1994.

Today, OS/2 2.0 surpasses Windows 3.1 in the following areas:

- o Superior crash protection
- o Greater number of applications supported
- o Superior multitasking
- o Object-oriented graphical user interface
- o Superior file system
- o More memory available for applications

Today, Windows NT is NOT available. In the timeframe that Microsoft is expected to complete Windows NT, OS/2 will have moved forward significantly. The following enhancements are planned for OS/2 later in 1992:

- o Additional performance improvements, especially for the minimum hardware configurations
- o Support for more displays, printers and other devices
- o Improved graphics engine
- o Support for Windows 3.1 applications

When the first version of Windows NT finally arrives, IBM is confident that OS/2 will still surpass it in the following areas:

- o Compatibility with DOS and Windows applications
- o Greater number of applications supported
- o Object-oriented graphical user interface

- o Less expensive hardware requirements (memory and disk)

So, a customer can choose to live with the shortcomings of Windows 3.1 and wait for Windows NT to arrive. However, when they are finished with this wait, they may face a hardware upgrade and a conversion of Windows applications.

Or, a customer can enjoy the benefits of OS/2 2.0's superior operating environment, avoid the upgrade and the conversion, and still have a superior operating environment in the future.

WHY DO ANYTHING ELSE?

Why OS/2?

THE BEST OF BOTH WORLDS

In the new PC environment, both personal productivity and line-of-business applications are essential. OS/2 can satisfy both needs. It provides a better DOS than DOS itself, and it runs a wide range of DOS and Windows applications. In addition, OS/2 2.0 is a superior platform for running in-house mission critical applications with industrial strength, robust protection, and powerful multitasking. Users don't have to choose between different systems for their different needs OS/2 can do both.

FREEDOM OF CHOICE

Today's computing environment can be confusing; the variety of options can be overwhelming. When making choices about hardware and software platforms, it is difficult to follow a path which keeps a wide range of options open. Too often choices are constrained by compatibility issues or by a limited growth path. OS/2 2.0 aims to simplify the decision by providing a choice; the widest range of applications on a wide range of hardware.

OS/2 2.0 runs DOS, Windows and OS/2 16-bit and 32-bit applications, the widest range of applications available on an Intel-based platform. In fact, OS/2 2.0 is such a superior environment that even if users only run DOS applications on a 386-based machine, OS/2 2.0 is the best environment in which to run them.

Furthermore, applications running under OS/2 2.0, whether they are DOS, Windows or OS/2 based, provide added value by working together; sharing information and running from the common Workplace Shell. This not only protects your current investment in DOS, Windows and OS/2 applications, but adds value by integrating them.

In addition, OS/2 2.0, and Extended Services and OS/2 LAN Server are supported on a wide range of IBM-compatible hardware as well as IBM PS/2s. This means the user can run OS/2 2.0 with confidence on machines from vendors like Compaq, Olivetti, Dell, Hewlett Packard, Toshiba, and others, and IBM support can be included. In fact, IBM has certified over 260 configurations from 71 hardware vendors so it is highly likely that your PCs equipped with an Intel 386SX or above processor are supported.

A PRODUCTIVE ENVIRONMENT FOR THE USER

OS/2 provides an object-oriented user interface, the Workplace Shell, which allows business users to focus on the information they want to work with, not the application that needs to be loaded. This business-oriented way of working helps users to become more productive, by concentrating more on what they want to do, and less on how to do it. It also provides a single consistent environment in which multiple applications can be loaded from different sources. Additionally, it is an extremely easy environment to learn, since once a user knows how to drag a file's icon with the mouse to put it into a folder, he can use the same operation to print it, and to copy it to another disk or erase it. In addition, companies can derive the benefits of a standard interface which complies with IBM's Common User Access (CUA) definition for user interface design.

Also, since many applications can be loaded and running at the same time, users can be more productive, especially in work that involves much interruption and switching from one task to another. OS/2's true multi-tasking means that long-running processes can simply be switched to run in the background, while the user continues with something else - resulting in less 'wait time' for the user. At the same time, more can be done with the existing set of applications by allowing them to share information easily through consistent interfaces like the Presentation Manager clipboard.

A PLATFORM YOU CAN RELY ON

When the PC becomes the center of information processing, as it often is in today's environment, then the PC platform must show the stability and reliability of the host environment. Today, DOS and extensions to DOS, like Windows, do not provide the protection that OS/2 2.0 offers. OS/2 HAS BEEN DESIGNED TO PROTECT APPLICATIONS FROM ONE ANOTHER and delivers today the stable platform required for full multitasking and greater protection from system crashes. It is little use having the most fault tolerant server or host if the client workstations are not fault tolerant. And many users of productivity applications, like word-processors and spreadsheets, consider their PCs to be "mission critical". For this reason, reliability is a requirement for every PC.

SUPERIOR CONNECTIVITY

OS/2's strong multitasking and robust protection make it the best operating system available for connectivity applications such as client/server and distributed processing. In addition, OS/2 has Extended Services for OS/2, which provides communications and database functions, and OS/2 LAN Server, which provides a full client-server environment. This allows networking to be an integral part of the operating system, and provides high functionality at a much more economical cost than buying many separate packages.

OS/2 is not only a superior server platform, but also the most functional and stable client. It provides a consistent platform for both server and client, can handle multiple concurrent communications protocols (e.g. NETBIOS, APPC, IPX, TCP/IP) with ease, and even provides a LAN-independent user interface to mixed vendor networks. In addition, it is enabled for automated LAN-based installation. Most importantly, OS/2 offers the stability and reliability in a client to match the reliability of the server or host.

The result is that "mission critical" applications which depend on

communications with various systems can be implemented much more safely in OS/2 than on DOS or its extensions.

THE INTEGRATED SYSTEM

OS/2 allows DOS, Windows and OS/2 applications to run together while providing a GUI, and the database, communications, and LAN support included in Extended Services for OS/2 and LAN Server. For developers, this means the APIs and services have been designed to work together, eliminating the need for the systems integration of a variety of DOS-based packages, a process which often presents incompatibilities or problems.

Instead, the OS/2 function has been designed and tested to work together - IBM has already done the integration work. In addition, the Workplace Shell environment integrates DOS, Windows and OS/2 applications and allows them to work together, even though they may have been written by different vendors. That's why OS/2 is THE INTEGRATING PLATFORM for the 1990s.

32-BIT POWER

OS/2 2.0 is a 32-bit system. It gives users the advantages of a 32-bit system, which include superior application performance and the opportunity to fully use the 386 and 486 hardware that runs OS/2. It provides users with a 32-bit system NOW - eliminating their need to wait for other alternatives with uncertain delivery dates.

The 32-bit API also allows developers to create richer, more sophisticated applications. Applications like multimedia require an advanced 32-bit interface to exploit their full potential and power. Additionally, moving to the OS/2 32-bit API gets developers ready for future developments in OS/2.

PLATFORM FOR GROWTH

OS/2 will be the base of new developments for many of the features that will be requirements for the workstations of the mid-90's. These include multimedia, object-oriented systems, support for the Distributed Computing Environment (DCE) and portability across different processors. These applications will require a robust, architected and powerful 32-bit system, and that system is OS/2.

IBM plans to enhance OS/2's capabilities for object-oriented application development in distributed environments by advancing the function provided by the System Object Model. IBM intends to leverage a subset of Taligent's object services and frameworks to benefit OS/2 application development and enable future compatibility with Taligent's environment.

VALUE FOR MONEY

OS/2 2.0 offers a "3 in 1" environment, allowing users to run DOS, Windows and OS/2 applications so there is no need to buy DOS or Windows separately. It also includes a series of productivity applications, utilities and games at no additional cost. OS/2 also provides scalable font support for both Windows and OS/2 applications with Adobe Type Manager.

OS/2 offers all this functionality at a list price which is less than the combined list prices of DOS and Windows 3.1.(1) Upgrading from DOS or Windows makes the cost of moving to OS/2 even less.

PROTECTS TODAY'S INVESTMENT, AND IS A BASE FOR THE FUTURE

Today, OS/2 supports the widest choice of existing applications while meeting the needs of current client-server and networked environments. OS/2 also provides a strong base for future technologies and a very reliable migration path. OS/2 currently offers what other environments can only promise for the future - so why wait?

What are some alternatives to OS/2?

WINDOWS 3.X

Microsoft Windows 3.0 and 3.1 are good attempts to work around some of the architectural limitations of the 10 year old, 16-bit, single-tasking architecture of DOS. They offer the user a more attractive interface and provide an environment in which programs can be written to do limited multitasking. The underlying architectural limitations still remain and it is these limitations that will prevent Windows 3.x from fully satisfying the demands of most in the 90's. Let us review these demands:

1. Reliability
2. Pre-emptive multitasking
3. Application support
4. Networking support
5. User interface
6. 32-bit

Reliability

DOS was written to run on the Intel 8086/8088 processors available at the beginning of the 1980s. These processors ran in "Real Mode", that is any program could address and change any part of memory. Therefore any program which made a mistake could overwrite itself or the operating system. In any case the program would fail. This might be irritating to the user if it led to lost work, but the impact was likely to be small.

Windows enabled more than one program to run, but still sometimes ran the processor in Real Mode. In this situation, one failing program could necessitate the shut-down of the whole system. This was the well-known "Unrecoverable Application Error" (UAE). In Windows 3.1, Microsoft reduced the frequency of the UAE in Windows 3.1 (and renamed the remaining UAEs to General Protection Faults or "GPF".) However, AS LONG AS A PROGRAM RUNS ON TODAY'S DOS, THE POTENTIAL FOR THESE FAILURES REMAINS. These failures can be very irritating to end-users and can represent a real impact to their productivity. For businesses that want to run "mission-critical" or higher-speed communications applications on PCs, it can be potentially disastrous.

From the beginning, IBM designed OS/2 to be a "protected" operating system. This means the operating system and the hardware cooperate to prevent failing applications from impacting any other part of the system. For the user, that means fewer problems and less inconvenience. For the business, it means lower risk and greater productivity.

Multitasking

Windows 3.x is built on the foundation of a single-tasking operating system, DOS. Therefore, multitasking of Windows applications must be done within the applications themselves. Programmers of Windows applications must explicitly include "yield points" to enable other applications to get a share of the processor time. This is called "cooperative application

multitasking" and results in inefficient use of available resources and unsatisfactory and uneven response to users when multiple programs are running.

IBM designed OS/2 to be a multitasking system by basing multitasking in the operating system, not the applications. For this reason, OS/2 can outperform Windows 3.x in many multitasking situations. In practice, this advantage is felt by the end-user in the increased smoothness of response. For example, an OS/2 user can continue to type into a word processor while formatting a diskette.

Application support

OS/2 runs more Windows applications than Windows 3.1 because it enables users to simultaneously run applications written for Windows Real Mode (Windows 2.x applications) and Windows 3.x applications. (Windows 3.0 can run these applications but not simultaneously with Windows 3.x applications.) OS/2 will also run OS/2 applications written for OS/2 2.0 and all previous releases of OS/2. An independent estimate put the customer investment in OS/2 applications at 2 billion dollars, in addition to the 2 billion dollars invested by software vendors.

OS/2 is the first mainstream 32-bit operating system for the Intel hardware architecture. Many software vendors and companies are developing applications that take advantage of the investment made in Intel 386 and 486 processor based machines over the last several years. The second edition of the OS/2 Application Solutions Directory published by Graphics Plus, Inc. lists 1100 32-bit OS/2 applications available or in development as of July 1992. OS/2 has the widest applications portfolio of any operating system in the market.

Networking

The role of the Personal Computer is changing; fewer business PCs are now stand-alone machines and highly connected client-server architectures will provide the Information Technology (IT) systems of the 90s. The original PCs were not designed to manage the demands of networking, which always required compromises for DOS-based PCs. The limited memory available for programs in DOS often meant that certain, larger applications were mutually exclusive with networking. Networking with Windows 3.0 was not always easy because of the various techniques used to circumvent the memory restrictions.

Windows 3.1 has helped ease these difficulties but has not completely eliminated the restrictions. In addition, the implementation of networking programs as Terminate and Stay Resident (TSR) programs (which ran in the Real Mode of the Intel processor) further compromised the reliability of

the system. Networking is fundamentally a multitasking activity and the limited multitasking in Windows was sometimes inadequate to manage high-speed communications tasks running in the background.

Networks are increasing in size and effective network and systems management is becoming more important. A sophisticated multi-tasking system is required to ensure these tasks can be safely performed in the background at any time without the intervention or knowledge of the user. OS/2 was designed to be part of a network and consequently, is an ideal choice for a client workstation.

User interface

Windows introduced many users to the benefits of a Graphical User Interface (GUI). Research shows that the underlying conceptual model presented by a software system is as important as the actual look of the program. Windows is still harnessed to the same underlying organization as DOS. This necessitates users understand the structure of the file system, the distinction between program and files, and so on.

The OS/2 user interface (the Workplace Shell) is a second generation GUI and presents an interface modelled on the real world. Users interact with the system by manipulating "objects"; dragging a file to a printer for instance. IBM has conducted thousands of hours of usability research to ensure OS/2 is easy to use, not just easy to learn.

In addition, the Workplace Shell acts as a unifying layer for applications. No matter for what system they were originally designed, they are used in the same way and information can be shared between them using the same techniques. Printing is easier in OS/2, enabling users to forget about the mechanics of the system and simply accomplish their tasks.

OS/2 is designed to work the way users work, not force them to work the way the computer works. Finally, OS/2 removes from many users the responsibility for understanding and controlling such things as extended memory management (provided by add-on products to DOS like QEMM) and enables them to concentrate on their jobs.

32 bit

For the end-user, the internal design of the system is probably not important. However, for the decision maker, the architectural basis of the product is significant because it dictates the range of future possibilities.

Microsoft has announced a 32-bit API for Windows 3.1 (Win32s), but it is important to understand the limitations inherent in this approach. As the full name (Win32 subset) implies, Win32s implements only some of the API calls in the full Win32 API which Microsoft states is supported in Windows NT. This means that developers may have to make a choice; They can write an application common to Windows 3.1 and Windows NT (which cannot exploit the additional functions in Windows NT), or develop separate applications for Windows 3.1 and Windows NT. In the latter case, the benefits of the Win32s API will be limited to the flat 32-bit memory model (which a Win32s Dynamic Link Library will map back to the native 16-bit segmented memory model of Windows 3.1). The performance implications of this are unknown.

OS/2 implements a complete 32-bit API with advanced features today. The benefits of this increase as developers ship more advanced, high-performance applications for OS/2. The requirements of the 90's are already here and OS/2 can satisfy them today.

WINDOWS NT

Microsoft has announced it will provide a completely new operating system called Windows NT. It will share the Windows name and provide some compatibility to existing Windows programs. It has been announced for availability at the end of 1992 or early to mid 1993. At this time, only beta code is available and this discussion is based on the functions present in this code and stated by Microsoft representatives to be in plan.

It must be stressed that WINDOWS NT IS NOT AN AVAILABLE PRODUCT.

Windows NT will implement a number of subsystems on a newly written kernel that borrows elements from different operating system models.(2) Microsoft states that important features of Windows NT will be:

- o Preemptive multitasking and multi-threading
- o Protected architecture
- o 32-bit system
- o Support for DOS and existing (i.e. 16-bit) Windows applications

IBM agrees that these features are important, which is why they are already available in OS/2 2.0. Other features that Microsoft claims that Windows NT will have are:

- o Improved security API
- o Support of symmetrical multiprocessing (SMP)
- o Portability (easily migrated to different hardware architectures)
- o POSIX

IBM agrees that these features are likely to be of increasing importance in the future and intends to add these features to a future version of OS/2. However it is unclear to what extent these features are required by customers today, or whether they will be more important than other technologies on which IBM is also working. In particular, the first version of Windows NT will not include any object-oriented user interface technology (unlike OS/2 which incorporates and uses the Workplace Shell / Systems Object Model (SOM) as the basis of its object-oriented user interface).

When considering the value of a new operating system it is better to take a business-oriented viewpoint rather than concentrating on the technology. In particular users should consider two vital points: the resources required to run an operating system and its compatibility with the existing application portfolio.

Windows NT system requirements

The recommended minimum configuration for Windows NT will be a fast Intel 386 with at least 8Mb of RAM and 100Mb of disk space.(3) However, PC Week has reported, "Many observers say that the practical recommendation

will probably end up closer to a 12Mb system. Others predict even higher memory requirements."(4) Gartner Group has also told its customers it believes "a mainstream platform for Windows NT will be a 486DX with 12 to 16 megabytes of RAM (and up) on the workstation."(5)

Since Windows NT is not generally available, it is unclear how much memory will be required to run a typical networked application.

Windows NT compatibility

Windows NT will be a break with previous PC operating systems and may not offer full compatibility with existing DOS or Windows applications.

In its July 27, 1992 review of Windows NT, PC Week stated, "Rather than provide compatibility for all DOS and Windows applications, Microsoft Corp. officials have stated their intentions to focus support on 'major' DOS and Windows 3.1 applications." Paul Muglia, a director of Windows NT at Microsoft, was also quoted, "We'll look at what are the top 100 Windows applications and the top 100 DOS applications, and focus more on those than on those that haven't sold well."(6)

In addition, the operating system design is processor independent and so if code written for the Intel 16-bit processors is to run on other processors, a software emulation of the underlying hardware may have to be provided. This technology is familiar from the UNIX world. It enables a basic level of compatibility but has a number of potential drawbacks:

- o Performance

The software emulation of hardware processes may cause applications to run slower

- o Hardware dependent programs

These may often not run. In particular, many DOS device drivers may have to be rewritten. This means that fax, scanner, file backup and even 3270 emulation programs may not run. Many software vendors will only undertake the work of rewriting device drivers if they are assured of a significant marketplace. The hardware requirements of Windows NT are likely to mean that it will not be a mass-market product.

- o Usability of DOS programs may also be compromised

Microsoft has acknowledged that, in the first release of Windows NT, DOS programs using VGA (or higher mode) graphics will not be able to be windowed onto the desktop.(7) This is not a problem for OS/2. Microsoft's plans to support clipboard and DDE for these DOS programs have also not been made clear.

Windows programs written for Windows 3.x are 16-bit programs and Microsoft has stated that Windows NT will support these programs in a single Virtual DOS machine (VDM).(8) This means that if one program fails other Windows 16-bit programs may fail - just as in Windows 3.1.

Windows/NT market positioning

Windows NT may have a number of compatibility issues that could make

it an unacceptable option for many end-users. Add to this the projected higher cost of the hardware needed to run NT and it's clear that Windows NT is unlikely to become the client of choice for most people. Microsoft has also clearly positioned Windows NT as more suitable for a server or high-end workstation operating system.(9)

While Windows NT has many of the features that would make it an attractive base as a server operating system, the reality is that changing a Network Operating System is a difficult and expensive procedure. Most network managers would choose to run with lower function rather than incur the risk and cost of changing server software.

Because nearly three-quarters of the networks in the world use Novell products that will not even run on Windows NT, it could take a long time for Windows NT to gain any significant acceptance. In addition, it is not clear what effect Microsoft's plans to bundle some basic networking functions with Windows NT will have on other networking product vendor's inclinations to support the platform.

OS/2 users will gain little if any benefit from moving to Windows NT because OS/2 already offers the key features of multitasking and application protection. In addition, Microsoft has stated that Windows NT will not run OS/2 32-bit or OS/2 Presentation Manager programs.

Many RISC-based workstation users are using UNIX because the specialized applications they need are written for UNIX. It is likely to be a large migration job to re-write a UNIX program for Windows NT and, in the absence of a large market acceptance, it is questionable whether software vendors will be willing to make that investment. Some UNIX users have already expressed their unwillingness to move to a new operating system that is inherently single-user when they are used to the flexibility of the multi-user UNIX. Jay Kidd, a director of marketing at Silicon Graphics (the manufacturer of the only RISC-based workstation that Windows NT runs on today), has stated "UNIX, rather than Windows NT, will continue to be the operating system of choice for those who want the absolutely best performance and are willing to sacrifice compatibility to get it."(10)

In summary, Windows NT is at risk of becoming a high-technology white elephant. If it cannot run existing programs and needs more powerful hardware than is widely installed then it should have a limited market and remain an academic solution to niche needs.

THE WINDOWS CLIENT-SERVER STRATEGY

Microsoft has a two operating system strategy. Today, the company recommends DOS and Windows for the client AND OS/2 FOR THE SERVER.(11) When Windows NT is delivered, it says that customers should migrate their OS/2 servers to Windows NT servers. IBM believes that the reason Microsoft proposes two separate and different operating systems for the client and server roles is because Microsoft does not offer a product that provides the reliability and efficient multitasking for clients with more limited hardware requirements. IBM PROPOSES ONE OPERATING SYSTEM FOR BOTH THESE ROLES: OS/2. This reduces administration workload and training overhead for support staff while making better use of software developers' skills.

The dominant system design of the 90's will be client-server. The flexibility, development speed and cost advantages of this architecture increase the requirements for systems and network management. A reliable client is a must (why pay for fault-tolerant servers if the clients are not

fault-tolerant?) but true multitasking is also vital to enable effective and non-intrusive management. OS/2 IS AN IDEAL CLIENT. LAN Server with OS/2 on the server provides the highest performance server in the industry.

Windows Myths

Some claims and beliefs about Windows have gained popularity. They often do not stand up to closer examination.

MYTH #1: THE MARKETPLACE HAS CHOSEN - WINDOWS IS THE STANDARD.

Windows has been an impressive sales success with Microsoft claiming to have shipped 10 million copies. However, the independent consultant groups, Creative Strategies and IDC, estimate that only 55% or 30% (respectively) of Windows licenses are in use. Windows magazine has also questioned Microsoft's number and estimated the number of copies of Windows in real use at about 4.5 million.(12) Any of these independent estimates reveal 5% or less of the close to 100 million installed base of PCs are using an installed copy of Windows, far from being a standard.

MYTH #2: EVERYONE IS USING WINDOWS APPLICATIONS.

Many software vendors have invested a lot of money developing Windows applications, and, as a result, much attention has been focused on these products. However, in 1991, the Windows applications market was smaller than the Macintosh applications market (according to the Software Publishers Association). In the nine months to June 1992 there were never more than 5 Windows applications in the "Top 20" best selling

applications(13)

Personal Computer Magazine in May 1992 said "Companies that have invested a lot of money in developing Windows applications are battling for a small share of what is a small pie".

Users continue to use, and buy, the tried and trusted DOS applications making compatibility with DOS applications a key requirement for any personal operating system. That is one of the things that OS/2 excels at and this DOS compatibility is one of the areas that should be of most concern to users considering Windows NT in the future.

MYTH #3: WINDOWS IS FASTER AND LEANER THAN OS/2

OS/2's design is optimized for multitasking, making OS/2 better than Windows in most multitasking scenarios. What is not well known is that OS/2 can also outperform DOS and Windows when running some DOS applications individually. OS/2 has a superior file system that gives a significant performance advantage to programs that do a lot of I/O for instance, database programs. Microsoft has drawn considerable attention to the different minimum hardware requirements of DOS/Windows and OS/2. However, Windows can run in more than one "mode". The Windows mode with the smallest hardware requirements offers the fewest benefits to users (more limited multitasking of DOS applications, for instance).

What Microsoft is saying about OS/2 2.0

Microsoft has published a number of documents that compare Windows 3.1 and Windows NT to OS/2 2.0. Some of the titles include:

- o "A Guide to Evaluating Microsoft Windows Operating System Version 3.1 for The PC Desktop With Comparisons to OS/2 2.0"
- o "Microsoft Windows NT Operating System - A Technical Comparison With OS/2 2.0"
- o "Microsoft Windows or OS/2 2.0"

These documents from Microsoft contain many statements regarding OS/2 that are incorrect or could mislead users. To help IBM's customers make a more informed choice of operating systems, the following are clarifications to some of Microsoft's statements:

- o OS/2 WILL RUN ON LESS THAN 2% OF THE WINDOWS CAPABLE-MACHINES, CITING INFOCORP AS THEIR DATA SOURCE.

According to Microsoft's data, approximately 200 thousand (1.38% of 18 million) machines are capable of running OS/2. Microsoft's information is obviously incorrect since there have been over 1 million copies of OS/2 2.0 shipped in the first 120 days of availability.

IDC has stated that at least 28% of the installed base of PCs are OS/2 capable. Almost 50% of machines shipping in 1992 and 66% of machines to be shipped in 1993 are OS/2 capable signaling a trend in the marketplace. In addition, OS/2 can run on many of today's notebook and laptop computers.

- o OS/2 IS NOT SUITABLE AS A NETWORK CLIENT BECAUSE OF THE "RELATIVELY FEW NATIVE DESKTOP APPLICATIONS AVAILABLE."

OS/2, as the Integrating Platform, runs DOS, Windows and OS/2 applications. No company has more experience and capability in networking than IBM. IBM believes OS/2 is the industry's best desktop client for connecting to complex enterprise networks. It is an ideal solution for mission-critical networked applications.

- o OS/2 HAS LIMITED HOST CONNECTIVITY BASED ON THE NUMBER OF NATIVE COMMUNICATIONS PACKAGES.

That is not correct. The OS/2 Communications Manager has a very comprehensive set of host connectivity options and current DOS and Windows based packages work on OS/2 as well.

- o WINDOWS HAS MORE DEVELOPMENT TOOLS THAN OS/2

OS/2 has a full complement of more than 250 development tools, although Windows has more native development tools. Many of today's leading edge tools originated on OS/2 which is why OS/2 is the preferred development environment for many vendors.

- o THE DOCUMENT "MICROSOFT (R) WINDOWS NT (TM) OPERATING SYSTEM - A TECHNICAL COMPARISON WITH OS/2 (R) 2.0" CONSISTENTLY USES THE PRESENT TENSE, "WINDOWS NT IS... "WINDOWS NT SUPPORTS...", "WINDOWS NT MEETS..."

Windows NT has not been shipped for general availability, therefore the use of the present tense is inaccurate. The actual ship date of the first release is not certain. In addition, Microsoft expressly does not guarantee that all of the function that has been described as part of Windows NT will be delivered in the first release.

- o MICROSOFT STATES THAT OS/2 RUNS MULTIPLE DOS APPLICATIONS BY STARTING A VIRTUAL DOS MACHINE OR VDM. MICROSOFT GOES ON TO SAY THAT THIS IS A FEATURE OF THE 386 DESIGNED TO SUPPORT OLDER REAL MODE APPLICATIONS AND THAT THIS FEATURE HAS BEEN USED FOR SOME TIME BY A NUMBER OF DOS EXTENDERS. THE READER MIGHT INFER THAT THIS IS A LIMITATION OR SHORTCOMING IN OS/2.

This misses the point and could be misleading. It is precisely because OS/2 uses the hardware isolation VDMs provide that OS/2 can offer superior crash protection. HARDWARE protects each application in a VDM from taking down an application or operating system in another VDM. Since Windows does not use this feature, the Windows Unrecoverable Application Errors (UAE) and General Protection Faults (GPF - a UAE by another name) can and sometimes do crash the operating system and other applications.

OS/2 also provides support for more DOS applications than is planned for Windows NT. Microsoft has confirmed that Windows NT will have limited support of DOS applications because it does not plan to support the v86 mode of the hardware the same way that OS/2 does. PC Week reported that many programs that support FAX, scanner, MIDI, terminal emulator and LAN cards (that today run under OS/2 2.0) will not run unmodified on Windows NT. In addition, DOS programs that support VGA or higher graphics will not run in a window on the Windows NT desktop.(14)

- o THE NEW OS/2 WORKPLACE SHELL IS DIFFICULT TO USE. HAVING WINDOWS APPLICATIONS RUNNING ON THE OS/2 DESKTOP WILL CONFUSE USERS AND DRIVE UP SUPPORT COSTS.

This argument is very difficult to understand, especially in our industry where new innovations are constantly bringing better products to consumers.

The Workplace Shell represents a second generation of graphical user interface and is a major advance over the Windows and previous OS/2 interfaces. These older generation interfaces basically put a pictorial face on the menus of OS/2 1.x and Windows 2.0. Instead of working with operating systems constructs like File Managers and Program managers, you work with a desktop with pictures (icons) of familiar things such as letters, folders and appointment books. Instead of working with directories, paths and print commands, you just pick up the picture of the letter and put it on the printer. OS/2 also allows users to preserve the command prompt or menu interface. IBM's OS/2 gives you the choice.

Microsoft has also recently demonstrated a future (1994) Windows NT user interface, codenamed "Cairo", that adds object oriented functions to Windows NT which bears a resemblance to the OS/2 Workplace Shell.

- o OS/2 2.0 DOES NOT RUN WINDOWS 3.1 APPLICATIONS, WHICH LEADS TO DEFICIENCIES IN THAT IT WILL NOT USE TRUE TYPE(R) FONTS, HAS LIMITED NETWORKING SUPPORT, PERFORMANCE AND RELIABILITY.

Support of Windows 3.1 applications in OS/2 2.0 has been demonstrated at various trade shows and is now in beta test with customers. IBM intends to make the Windows 3.1 application support generally available near the end of 1992.

With respect to TrueType fonts, OS/2 2.0 offers built-in Adobe Type Manager (ATM) font technology for both OS/2 and Windows modes. Adobe is widely used in the industry while TrueType is still proprietary. In addition, there are thousands more fonts available for Adobe than TrueType. TrueType support for Windows 3.1 applications will also be included in OS/2 in the near future.

OS/2 currently provides more networking options than does any generally available version of Windows, and OS/2's reliability and performance when performing many simultaneous tasks are hard to match.

Several vendors, such as Novell, have networking products available for OS/2 2.0 today, with more coming from other vendors. In addition, OS/2 can run many DOS-based LAN products in its DOS sessions.

With OS/2's entry-level hardware requirements and its superior communications extensions, both from IBM and other vendors, OS/2 is ideally suited for both the client and server ends of communications, thus keeping all systems consistent and homogeneous.

- o THE INSTALLATION OF OS/2 2.0 CAN BE DIFFICULT

Installing 15 to 20 diskettes can seem complex at first, but OS/2 does an admirable job of making it easy and of migrating existing applications. The installation process can even be accomplished across a local area network or eliminated entirely by choosing OS/2's remote IPL capability. In addition, many new systems are pre-loaded with OS/2 and a CD-ROM version is planned for availability soon.

- o OS/2 2.0 OFFERS LIMITED RELIABILITY WHEN RUNNING MULTIPLE WINDOWS APPLICATIONS IN THE SAME SESSION.

Actually, OS/2 has a big advantage over Windows 3.1 when it comes to reliability. Under Windows, an errant application can disable other applications or even Windows itself. OS/2 provides protection which can prevent a failing application from bringing down another or the whole system.

Under OS/2 2.0, if a user runs several Windows applications in the same session and two or more conflict, the user can simply specify them to run in separate sessions to protect one from harming the other. Of course this may use more memory, but the gain is the reliability that Windows 3.1 does not offer.

- o APPLICATIONS RUNNING IN SEPARATE OS/2 SESSIONS DO NOT FUNCTION PROPERLY.

This is incorrect. Windows applications function just fine when run together in the same OS/2 session or in different sessions. This includes applications that use the clipboard, NETBIOS, Dynamic Data Exchange (DDE), Named Pipes or Object Linking and Embedding (OLE).

- o DATA EXCHANGE OF GRAPHICS BETWEEN WINDOWS AND PRESENTATION MANAGER APPLICATIONS DOES NOT WORK.

This too is incorrect. Dynamic Data Exchange (DDE) and the clipboard functions work fine for graphics.

- o OS/2 2.0 HAS LIMITED VIDEO SUPPORT IN THAT A WIN-OS2 WINDOW WILL ONLY RUN IN VGA GRAPHICS MODE.

In the initial shipment of OS/2 2.0, this is true. However, there are SVGA board makers who have already produced WIN-OS2 window (seamless window) drivers for their SVGA boards and IBM's 32-bit XGA and SVGA high-resolution seamless drivers are also available in the market.

- o CONFIGURING OS/2 2.0 IS DIFFICULT BECAUSE USERS MUST CONFIGURE BOTH THE OS/2 AND THE WINDOWS SIDE OF THINGS.

Some users may want to customize the configuration of their Windows applications but OS/2 is generally self-configuring. Once the user installs fonts and other tools, it runs seamlessly.

- o NT WILL BE BETTER IN ITS SUPPORT OF 16-BIT WINDOWS APPLICATIONS. NT WILL RUN THESE APPLICATIONS IN ONE ADDRESS SPACE WITH PARAMETER VALIDATION.

We disagree that this provides better protection. In contrast, it should provide no more protection than the current Windows version and still far less than OS/2 2.0.

Since the applications will only run in one address space, they can still conflict with each other. The parameter validation in Windows 3.1 simply gives users a little more information on what went wrong. Windows can have difficulty recovering from such a situation and users may still have to reboot their system when a General Protection Fault (GPF) occurs. There is no advantage in this.

When a Windows application fails under OS/2, one only need stop and restart the failed session. There is no reason to reboot the entire system. Additionally users have the advantage of running the applications in separate sessions to avoid conflicting with another application.

- o NT IS MORE OF AN "ADVANCED OPERATING SYSTEM" THAN OS/2 2.0

This is a very subjective statement! Both NT and OS/2 2.0 are pre-emptive, multithreaded, prioritized multitasking systems and ONLY OS/2 IS A FULL PRODUCT IN THE MARKETPLACE TODAY.

- o OS/2 FALLS SHORT BECAUSE IT DOES NOT HAVE A FULL 32-BIT ARCHITECTURE.

In the current release of OS/2 2.0, the operating system code contains a mixture of 16- and 32-bit code. Due to the native support for DOS and Windows applications, 16-bit code must be present. The APIs provided however are full 32-bit implementations. This allows developers to write full 32-bit native applications and have total compatibility with OS/2 2.0 as more of the internal subsystems are migrated to 32-bit. In particular, a 32-bit graphics engine which will offer improvements in performance, function and stability is already in beta test. IBM's intentions are to deliver this new graphics engine to end-users later in 1992.

- o PRESENTATION MANAGER RUNS IN A SHARED ADDRESS SPACE WITH ITS APPLICATIONS AND THUS CANNOT PROTECT ITSELF.

Presentation Manager does not really "run", it is a set of routines that provide functions to applications which run in their own address space. A failing PM application will only hurt itself, not PM or any other program. PM and the rest of the operating system code remain intact.

- o OS/2 CANNOT SUPPORT SYMMETRIC MULTIPROCESSING MACHINES.

It is true that OS/2 does not yet support symmetric multiprocessing, but very few people have true SMP machines today. What some customers have today are systems that support multiple processors (MP) and IBM plans to ship, in the near future, an extension of the LAN Server (LS) that will support up to five loosely coupled processors. This LS/MP extension will support IBM's new PS/2 Model 295.

It is IBM's intention to also support multi-threaded SMP applications in the future.

- o OS/2 FALLS SHORT BECAUSE, AS A MIXED 16/32-BIT SYSTEM, IT CANNOT BE PORTED TO RISC PROCESSORS.

This is incorrect. It is part of IBM's strategy to port OS/2 to the RISC platform and maintain compatibility with existing OS/2 32-bit applications. Only sections of OS/2 required to maintain compatibility with existing 16-bit DOS and Windows applications will remain 16-bit.

- o OS/2 DOES NOT HAVE A DESYNCHRONIZED INPUT MODEL.

OS/2 has a mechanism to interrupt "ill-behaved" applications that might "hog" the message queue and inhibit user input. Most OS/2 applications are written so that this is not a problem.

With OS/2's modular design, a desynchronized message queue can be implemented as a replacement subsystem and added to the system in the future.

- o OS/2 FALLS SHORT BECAUSE IT HAS LIMITED ASYNCHRONOUS I/O.

OS/2 has full support for asynchronous I/O and with its enhanced FAT and HPFS file systems, along with device drivers for communications and other peripheral ports, it is a very powerful and efficient system for synchronous and asynchronous I/O.

- o OS/2 SUPPORT FOR WINDOWS APPS IS MORE LIMITED IN THAT IT RUNS MODIFIED WINDOWS 3.0, NOT 3.1 AND WILL NOT RUN 32-BIT WINDOWS APPS. THESE ARE SHORTCOMINGS GIVEN THE SIZE OF THE INSTALLED BASE OF WINDOWS

First, there are no 32-bit Windows (Win32) applications today. OS/2 can add this support if there is demand for it. As stated earlier,

OS/2 has been demonstrated running Windows 3.1 applications. The code is in beta test now and is planned for availability before the end of 1992.

Finally, there is a fairly large Windows application install base and OS/2 2.0 runs virtually all of those Windows applications today.

- o THERE ARE ONLY ABOUT 300 GRAPHICAL APPLICATIONS FOR OS/2 AVAILABLE.

Since OS/2 can run all the OS/2 and the majority of the DOS and Windows applications, most of the 6500 Windows applications should be added to the list of what OS/2 will run.

While these applications were not written to take advantage of OS/2's native protected mode, they will run well under OS/2 nonetheless. Windows 3.1 cannot run a number of these applications without changes.

In addition, Microsoft has published a compatibility list describing more than 30 applications written for Windows 3.0 that will not function properly on Windows 3.1 but run on OS/2 2.0.

Following Microsoft's logic, Windows NT will be in the same situation as OS/2, in that the 6500 Windows and thousands of DOS applications were not written for its native mode. Microsoft has also stated recently that it will only focus on support efforts on "major" DOS and Windows 3.1 applications for Windows NT.(15)

- o THERE ARE SIGNIFICANT ADVANTAGES TO CODING FOR THE WIN32 SUBSET (WIN32S) FUNCTIONS, TO HAVE CODE THAT RUNS AND IS PORTABLE UP TO WINDOWS NT ONCE WINDOWS NT SHIPS.

While this may appear to be a sound technical idea, there are some severe shortcomings in this approach.

Applications coded only to the Win32s API will not exploit many advanced operating system features (multi-threading, preemptive multitasking, etc) on either Windows 3.1 or Windows NT. On the other hand, applications coded only to the full Win32 API may not run on Windows 3.1 at all.

Essentially, the Microsoft strategy forces developers to make a choice:

- Sub-optimize either the Windows 3.1 clients or the Windows NT servers
...or...
- Maintain separate source libraries for each, significantly increasing development costs.

OS/2, however, has a single, consistent 32-bit API for developers to build both client and server applications.

- o OS/2'S SCHEDULER WILL NOT PREEMPT A TIME SLICE ONCE IT HAS BEEN STARTED WHILE WINDOWS NT WILL, LEADING ONE TO CONCLUDE THAT OS /2 IS LESS EFFICIENT FOR TIME-CRITICAL APPLICATIONS.

OS/2 is ideal for time-critical applications, and indeed, is being used in many sites today to control plant floors, loading docks and medical equipment. OS/2 was also used at the 1992 Summer Olympic Games to control data and has been used to gather and report real-time data at the Indianapolis 500 car race for several years now.

- o WINDOWS NT WILL SUPPORT 2 GIGABYTES OF ADDRESS SPACE PER APPLICATION WHILE OS/2 2.0 ONLY SUPPORTS 512MB.

OS/2's architectural limit per application is 4 gigabytes, the current implementation is 512Mb. Today, there are very few applications that come anywhere near 512Mb of memory and very few computers that even have 100Mb of real memory.(16)

- o WINDOWS DEVELOPERS CANNOT LEVERAGE THE INVESTMENTS MADE IN THEIR WINDOWS-BASED PROGRAMS IN OS/2.

In OS/2, Windows developers can gain great benefits and leverage their investments in Windows code in several ways:

1. Users can continue to run their Windows applications under OS/2 while developers work on OS/2 versions. OS/2 2.0 can run the majority of the Windows applications that Windows 3.1 does not.
2. Windows and OS/2 have a number of things in common. Many of the programming interfaces are similar and in many cases, the structures and APIs are virtually interchangeable. If a user understands Windows programming, he will understand OS/2's Presentation Manager. Dealing with multitasking and multiple threads is something he would have to learn for Windows NT and OS/2 2.0.
3. There are porting tools available today, for the initial port from Windows code to OS/2. Many large applications can be ported in an hour or two. Then developers can begin to optimize the code for OS/2's advanced features.

Once application code runs on OS/2, it has been able to run on future versions of OS/2. IBM has been able to maintain this commitment to protect customer investment in applications since version OS/2 version 1.0. Microsoft has forced developers to upgrade code with virtually every revision of Windows. Microsoft has already published a document on porting Windows 16 bit applications to the Windows 32 bit APIs.

- o WINDOWS NT CAN SHARE PRINTERS AND OS/2 CANNOT.

OS/2 can share printers with any of several network products available. It appears that Windows NT will have some networking features built into the base system. This can have advantages and disadvantages.

The advantage is that users will not have to purchase extra network products to use the most basic of networking functions.

The disadvantage is that users who do not want network functions are bogged down with the extra disk and RAM required to keep this code around. This may also limit compatibility with other vendors' networking offerings.

OS/2 2.0 offers it all... TODAY.

OS/2 2.0 is a fully preemptive, prioritized, multitasking, multithreaded operating system with a superior object-oriented graphical interface, networking and host connectivity support along with compatibility with most other software written for Intel based PCs and compatibles, and best of all, it's available today.

The prioritized, preemptive multitasking of OS/2 utilizes the processor more efficiently than Windows 3.x. The connectivity support along with its entry-level hardware requirements make it an ideal platform for both client and server computing.

OS/2 2.0 provides:

- o 32 bit virtual memory, allowing applications up to 512 megabytes per

application, limited only by the size of the user's hard disk.

- o Multitasking support, allowing many applications to run simultaneously with excellent performance.
- o Multithreading to allow those applications wishing to perform many simultaneous tasks to do so.
- o An easy-to-use and easy-to-program context-sensitive online help system.
- o Protection among applications and protection to enhance operating system integrity. Users have the option of running applications in separate sessions, or combining them as resources and the situation dictate, while the operating system is protected from errant code.
- o Extendable subsystems, allowing programmers to add new system services and create custom, enterprise-wide applications while remaining flexible for the small company or home user.
- o International language support (currently 17 languages) including bidirectional languages for Hebrew and Arabic.
- o A state-of-the-art, object-oriented user shell that integrates applications with the shell, providing consistent interfaces across the entire system.
- o Compatibility. OS/2 will run:
 - 16-bit and 32-bit OS/2 applications
 - Most DOS applications
 - Most Windows 3.0 and Windows 2.0 applications; and Windows 3.1 applications soon
 - Connectivity with various network systems along with host environments

OS/2 2.0's compatibility with applications written for previous versions of OS/2, DOS and Windows is unsurpassed. Even Windows 3.1 will not run a number of applications written for Windows 3.0, forcing developers to update their code and users to purchase upgrades. OS/2 will run many of these applications, preserving users software investments.

OS/2's programming interface has not changed from earlier versions. With any new functions that have been added, only minor changes are needed to source code to recompile on OS/2 2.0, and programs that ran on a previous version of OS/2 will run on OS/2 2.0 unchanged. The only need to recode for any upgrade of OS/2 is to take advantage of new features, again preserving programming investments.

IBM Multimedia Presentation Manager/2 (MMPM/2) has been released to provide multimedia capabilities for OS/2 systems for sound, CD-ROM and MIDI support as well as advanced graphics.

Many applications have already taken advantage of OS/2's powerful multitasking and multithreaded features in their 16-bit versions. Vendors such as Lotus, Describe, Aldus and Novell have 16-bit OS/2 applications. 32-bit applications will, in most cases, run even better and faster due to

OS/2's new 32-bit flat memory model along with its other features. There are more than 200 32-bit applications available now and more than 1000 software vendors have committed to delivering 32-bit OS/2 applications in 1992.

OS/2 2.0 offers users and developers alike powerful multitasking features, with limitless possibilities for the future. Best of all, OS/2 2.0 is available on the desktop today.

APPENDICES

Appendix A. OS/2 2.0 compared to Windows 3.1 and Windows NT

The following charts compare key operating system features for Windows 3.1, Windows NT and OS/2 2.0. Some of the entries under Windows NT are marked with an asterisk, "*". This is because Windows NT is not generally available and therefore IBM does not have the current specifications for all items. For the same reason, the data on Windows NT may change at any time.

Table 1. OS/2 2.0 compared to Windows 3.1 and Windows NT			
	Windows 3.1	Windows NT	OS/2 2.0
Available	Today	*	Today
Price (low - high)	\$49 - \$149	\$400 - \$500 (estimate)	\$79 - \$149
Applications Base			
DOS Applications	30,000+	*	30,000+
Windows Applications	5,000+	*	5,000+
16-bit OS/2 Applications	0	*	2,500+
32-Bit OS/2 Applications	0	*	600
--- TOTAL ---	35,000+	*	38,000+
Hardware			
Processor	286 and higher ^	386DX (33Mhz)	386SX (16 Mhz)

		and higher	and higher
Minimum RAM	2 MB	8 MB	4 MB
Recommended RAM	4 - 6 MB	12 - 16 MB	6 - 8 MB
Minimum hard drive (approximately	9 MB	40 MB	13 MB
Hard drive for full install (approximately	11 MB + ↑	100 MB ^	28 MB
Largest hard drive	1 GB	17 Billion GB (NTFS)	64 GB (HPFS)
Largest file size	1 GB	*	2 GB
SCSI exploitation	No	Yes	Yes
File System options	FAT only	FAT, HPFS, NTFS	Enhanced FAT or HPFS
Memory			
Virtual Memory Limit	4 x Physical Memory	2 GB per process	512 MB per process
Memory Model	Segmented (64 KB)	Flat memory objects	Flat memory objects
Multi-tasking			
Multi-tasking - DOS Applications	Time Slicing	Preemptive Time Slicing	Preemptive Time Slicing
Multi-tasking - Windows/PM Apps	Co-op	Preemptive	Preemptive
Priority	Static (set by user)	Dynamic	Dynamic

Dispatchability	Process	Thread	Thread
System Services	Serial	Parallel	Parallel
Reliability/Protection			
Protection	Limited	Some ^	Yes

between Applications			
Kernel protection	Limited	Yes	Yes
Remains in protect mode	No - access to real mode possible	Yes	Yes
Application Compatibility			
Multiple Concurrent DOS Applications	Yes (enhanced mode only)	Some *	Yes
Windows 2.x Applications	No	No	Yes
Windows 3.0 Applications	Most μ	Some *	Most
Windows 32 Bit Applications	Some	Yes	No (Possible Future)
Clipboard support	Windows and DOS only	Windows and DOS only	Windows, DOS and OS/2
DDE support	Windows apps only	Windows apps only	Windows and OS/2 apps
OLE support	Yes	Yes	Yes
16-bit OS/2 Applications	No	Partial (char mode only)	Yes
32-bit OS/2 Applications	No	No (Possible	Yes

		Future)	
Printing and Fonts			
Print spooling	Limited â	Yes	Yes
Adobe Type Manager standard	No	No	Yes
Network printing support	Some	Yes	Yes
Background printing performance	Unpredictable	*	Predictable
National Language Support			
Number of Language Versions	12	*	17
Data Interchange	SO8859 (different from DOS)	*	CP850 (consistent throughout OS/2)
Host connectivity	3rd party	3rd party	Included in Extended Services for OS/2
Code Page	Single	Unicode	Selectable
Other Factors			
Full 32-bit APIs	No	Yes	Yes
Concurrent High Speed Comms	Unreliable	*	Yes
Background Comms	Unreliable	*	Yes
OEM Hardware Support	Yes	Some	Yes
Development	Yes	Yes	Yes

Tools			
Command Language	.BAT	.BAT, Basic	.BAT, .CMD and REXX
Installation migration for existing apps	Limited	*	Yes
User Interface			
CUA compliance	Graphical Model ('89)	Graphical Model ('89)	Workplace Model ('91)
Icons representing non-loaded files on desktop	No	No	Yes
Place icons anywhere on desktop	No ^ -	No ^ -	Yes
Group windows	Single-layer only	Single-layer only	Multilayer hierarch. folders
Customise GUI look	No	No	Yes (Workplace Shell, Windows 3.x, OS/2 1.x)
Context Menus	No	No	Yes
Object Management	No	No	Yes
Graphical Install	Yes	Yes	Yes
Intelligent fonts	Windows 3.1 - Yes (TrueType - 650 fonts)	Same as Windows 3.1	Yes (Adobe Type Manager for PM & Windows - 1200 fonts)
Long file names	No	Yes	Yes

Applets	Yes	Yes	Yes
Consistent GUI logon	No - requires Network vendor utility	Yes	Yes
Interactive Tutorial	Yes	*	Yes
Command Reference	No	*	Yes
Advanced Connectivity ^ ^			
Client and Server platform	No	No ^ '†	Yes
Multiple Concurrent Protocols	Limited	Yes	Yes
SNA LU6.2	3rd party	3rd party	Yes
APPN	3rd party	3rd party	Yes
TCP-IP	3rd party	3rd party	IBM TCP-IP for OS/2
Systems Management	3rd party	LAN Man NT (future)	Various from IBM
SQL Server	MS SQL Server (requires OS/2)	SQL Server NT (future)	OS/2 Database Mgr
SQL Client	3rd party	Yes	Yes
NFS	3rd party	3rd party	IBM TCP-IP for OS/2

Notes:

1. Although Windows 3.1 will run on a 286, doing so limits the features available to the user (multitasking DOS applications, demand paging, 32 bit support.)

2. An additional 50% of the remaining partition is used for the swap file. This is the default.
3. This includes a mandatory 20 MB swap file
4. Windows NT runs existing Windows 16-bit applications in a single address space. If one of these applications goes down, all of the applications in the address space could go down as well.
5. Windows NT has been shown to have compatibility problems with some classes of DOS and Windows applications. See PC Week, July 27, 1992.
6. Windows 3.1 will not run some Windows 3.0 applications, which will need updates. Compatibility notes are listed in the APPS.HLP file. Several Windows 3.0 applications need updated versions to run on Windows 3.1. OS/2 2.0 runs virtually all Windows 3.0 applications, as well as all the Windows 2.x applications that Windows 3.1 will no longer support (no Real Mode support provided)
7. Print spooling is not provided by Windows 3.1 for DOS applications, only for Windows applications. OS/2 2.0 provides print spooling for DOS, Windows and OS/2 applications. OS/2 2.0 has extensive user print management capabilities (40 APIs vs 12 APIs in Windows 3.1) for querying, holding, releasing and deleting jobs (including a graphical view of job and queue status).
8. OS/2 has been shown to outperform Windows 3.x with background print operations, in multitasking environments
9. Early feedback on Compuserve of the pre-beta SDK is indicates that 386 processors with a B0 or B1 stepping are incompatible with Windows NT. Several common BIOS chips have also been found to be incompatible.
10. In Windows, files only exist in the File Manager, programs in Program Manager, etc. There are no icons for printers.
11. OS/2 2.0's 'Yes' answers here are all using Extended Services for OS/2 except where stated. It is important to note that the Windows column refers to Windows specific programs (i.e. written to explicitly take advantage of Windows GUI, memory addressability, or time-slicing). Although there are many DOS connectivity options, and they may be usable under Windows, the integration of these complex subsystems and any co-residency of two or more options (eg TCP/IP and SNA) is completely the responsibility of the customer as a custom integration effort.

Moreover, Windows on DOS has architectural limitations (less memory, less protection, and less multitasking support) which make multiple network connections more difficult to integrate than under OS/2. OS/2's base environment provides tools and system support designed to allow this type of multi-connectivity installation. Besides, all the extra software required for these functions under OS/2 comes from IBM, and one can therefore anticipate a greater degree of integration.

12. The projected system requirements for Windows NT may be too large for many of today's client machines.

When a vendor ships new software, minor incompatibilities often accompany the new function. Windows 3.1, for example, has problems running dozens of Windows 3.0 applications, including Microsoft applications. Support for Windows 2.x applications has been removed entirely.

OS/2 2.0 will run Windows 2.0 and 3.0 applications concurrently. It will also run nearly all of the 30+ Windows 3.0 applications that Microsoft warns will not run properly under windows 3.1 and would require upgrades or fixes:(17) These include:

- o Ace Software AceFile
- o Adobe Illustrator
- o Adobe TypeAlign
- o Aldus FreeHand 3.0
- o Aldus Persuasion
- o Bitstream FaceLift 1.2
- o Borland C 3.0 WInsight
- o Campbell Services OnTime 1.0
- o Central Point Software PC Tools
- o Channel Computing Forest and Trees 2.0a
- o Claris Hollywood
- o Coda Finale
- o Computer Support Arts & Letters
- o Software Publishing Harvard Graphics for Windows
- o Computer Support Picture Wizard
- o First Byte Monologue for Windows
- o hDC First Apps Memory Viewer 1.0
- o Hewlett-Packard NewWave
- o Lotus Ami Pro
- o Microsoft Bookshelf for Windows
- o Microsoft PowerPoint 2.0e
- o Microsoft Productivity Pack 1.0
- o Microsoft Word for Windows 1.1
- o PowerSoft Powerbuilder 1.0
- o SofNet FAXit for Windows
- o PFS:WindowsWorks
- o NBI Legacy
- o Norton Desktop 1.0
- o (ALL Windows 2.x applications)

(1) At the time of this writing, the suggested retail prices of MS-DOS 5.0 MS-DOS 6.0, Windows 3.1 and OS/2 V2.0 are \$99.95, \$69.95, \$149.00 and \$149.00 respectively.

(2) A Grand Tour of Windows NT - Microsoft Systems Journal, Jul/Aug 1992

(3) Microsoft Windows NT - An Overview - April 1992

(4) PC Week - Windows and OS/2 Supplement - August 17,1992 - Page S/1.

(5) Gartner Group - Personal Computer Research Notes, P-230-853, July 31,1992

(6) PC Week, July 27, 1992 - Page 1

(7) PC Week - Windows and OS/2 Supplement - August 17, 1992 - Page S/9

(8) Microsoft Windows NT Operating System - A Comparison with OS/2

- (9) Microsoft Operating Systems Directions - Presented by Dwayne Walker at Spring Comdex 1992
- (10) Windows Magazine, October, 1992, Page 20
- (11) Microsoft Windows Strategy - An Overview - Page 5
- (12) Windows Magazine - October 1992 - Page 16
- (13) Data from Romtec, Ingram-Micro, Software Unlimited, PC Connection
- (14) PC Week, July 27, 1992 - Page 1
- (15) PC Week - July 27, 1992 - Page 1
- (16) Remember: the virtual memory limit for ANY system is it's real (physical) memory plus all free disk space.
- (17) PC Week, March 23, 1992. The article says that these products were taken directly from the Win 3.1 on-line help system.

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